

**The following primers were used in RT-PCR:**

RAD50.F/R: TGATTTGCTGCTCTTCATCC/GCTGTACTGCTGAACCCTGA;

BRCA2.F/R: CCTCCACCTGTTAGTCCCAT/CGTATTTGGTGCCACAACCTC;

FANCA.F/R: CAAGGCCATGTCCGACTCGT/TTTCCCTCTTGACCCTTCCCGC;

hMOF(K274A).F/R: GCCAAGCTTTTCCTGGACCATGCGACACTGTACTTTGACGTG

GAG/CTCCACGTCAAAGTACAGTGTCGCATGGTCCAGGAAAAGCTTGGC.

**The following primers were used in ChIP amplification:**

BRCA2.F/R: GGCAGATTTTCGCCAAGCAA/CCCATCAGCATGTCTTCGGA;

FANCA.F/R: TCCGGCTGCCGAAACAC/GCGCGGAGAGGAGTTTTTG;

RAD50.F/R: CAATCCACCCCACCACTACC/CAAAGCCGTAGCCACAATGC.

**Lastly, the following primers were used in Bisulfite Sequencing:**

FANCA.F/R: TTTGAATGTTTTTTTGTGAGGTAGAAGG/

AAATACCCACTAAAACCCCAACCTTAAAAC.

**Table S1. Differentially Expressed Genes between H2O2 Treated and Untreated HCT116 Cells.**

| id            | foldChange  | log2FoldChange | pval      | padj     |
|---------------|-------------|----------------|-----------|----------|
| MIR663A       | 26.69602428 | 4.738552999    | 3.33E-126 | #####    |
| FOSB          | 16.65008002 | 4.057457206    | 7.23E-85  | 5.92E-81 |
| MT-CO1        | 0.166102938 | -2.589850502   | 2.60E-71  | 1.42E-67 |
| FOS           | 5.068534399 | 2.341568642    | 2.29E-66  | 9.37E-63 |
| JUN           | 5.043231983 | 2.334348589    | 1.32E-63  | 4.32E-60 |
| EGR2          | 7.567229645 | 2.919765228    | 1.87E-56  | 5.09E-53 |
| DUSP2         | 4.263724339 | 2.092114167    | 4.55E-40  | 1.07E-36 |
| ATF3          | 3.340070275 | 1.739878457    | 1.88E-37  | 3.86E-34 |
| EGR3          | 4.524541772 | 2.177771689    | 6.84E-35  | 1.24E-31 |
| NR4A1         | 3.200767534 | 1.6784179      | 1.37E-34  | 2.24E-31 |
| HSPA1B        | 2.969348425 | 1.57014639     | 9.58E-33  | 1.43E-29 |
| BZRAP1        | 10.49348389 | 3.391421835    | 9.76E-31  | 1.33E-27 |
| DUSP1         | 3.920965564 | 1.971208971    | 1.39E-30  | 1.75E-27 |
| ARC           | 2.937732579 | 1.554703074    | 1.39E-27  | 1.62E-24 |
| RP11-1100L3.8 | 3.316164239 | 1.729515461    | 6.66E-25  | 7.27E-22 |
| S100P         | 26.40189106 | 4.722569363    | 9.75E-23  | 9.98E-20 |
| MT-ND6        | 0.410597187 | -1.284204351   | 1.65E-22  | 1.59E-19 |
| DDIT3         | 2.312317806 | 1.209339696    | 8.80E-20  | 8.01E-17 |
| CTD-3247F14.2 | 34.28320493 | 5.099430079    | 1.65E-19  | 1.42E-16 |
| GADD45B       | 2.489483248 | 1.315846307    | 4.56E-18  | 3.74E-15 |
| JUNB          | 2.186964461 | 1.128929776    | 5.10E-18  | 3.98E-15 |
| MT-ND5        | 0.432924288 | -1.207813355   | 7.23E-18  | 5.38E-15 |
| RP11-539L10.2 | 31.28686607 | 4.967485249    | 1.10E-17  | 7.80E-15 |
| SNORD3D       | 11.50248396 | 3.52387354     | 1.25E-17  | 8.52E-15 |
| PPP1R15A      | 2.177774453 | 1.122854545    | 3.74E-17  | 2.42E-14 |
| NR4A3         | 4.993978963 | 2.320189744    | 3.84E-17  | 2.42E-14 |
| SNAI1         | 2.869808692 | 1.520954567    | 1.34E-16  | 8.10E-14 |
| RHBDL1        | 0.333276433 | -1.585208793   | 3.35E-16  | 1.96E-13 |
| SOWAHC        | 2.378639911 | 1.250136887    | 6.05E-16  | 3.42E-13 |
| FKBP11        | 0.388057664 | -1.365657046   | 1.49E-15  | 8.13E-13 |
| MT-ND4        | 0.449437118 | -1.153808816   | 3.49E-15  | 1.84E-12 |
| LINC00641     | 0.442501195 | -1.176246744   | 2.30E-14  | 1.18E-11 |
| RP11-159D12.2 | 0.488107286 | -1.034729809   | 3.61E-14  | 1.79E-11 |
| GDF15         | 2.089193737 | 1.062946284    | 4.48E-14  | 2.16E-11 |
| TRIM66        | 0.469130543 | -1.091938663   | 5.13E-14  | 2.40E-11 |
| CTA-29F11.1   | 3.241705644 | 1.696753096    | 1.38E-13  | 6.28E-11 |
| PTGER3        | 56.57673381 | 5.822136987    | 1.50E-13  | 6.64E-11 |
| DNAJB1        | 1.924923651 | 0.944801225    | 4.02E-13  | 1.73E-10 |
| SEMA4A        | 14.70095962 | 3.877838427    | 1.15E-12  | 4.82E-10 |
| GEM           | 2.147621274 | 1.102739601    | 1.67E-12  | 6.82E-10 |
| NFAT5         | 0.537766928 | -0.894947062   | 2.45E-12  | 9.79E-10 |
| YJEFN3        | 0.420202223 | -1.250844299   | 4.16E-12  | 1.62E-09 |
| HSPH1         | 1.895402521 | 0.922504262    | 4.48E-12  | 1.70E-09 |
| DCHS1         | 6.678624809 | 2.739551069    | 4.56E-12  | 1.70E-09 |
| RPL3          | 0.47890309  | -1.06219435    | 5.85E-12  | 2.13E-09 |
| CTB-89H12.4   | 0.445588885 | -1.166214849   | 7.37E-12  | 2.62E-09 |
| FUT6          | 47.46460917 | 5.568780299    | 1.20E-11  | 4.18E-09 |
| AXIN2         | 0.52914558  | -0.9182634     | 1.38E-11  | 4.71E-09 |
| KMT2D         | 0.552565831 | -0.855781741   | 1.64E-11  | 5.47E-09 |
| MOAP1         | 2.058411643 | 1.041531522    | 1.77E-11  | 5.80E-09 |
| SGK1          | 2.430546387 | 1.281280668    | 2.16E-11  | 6.92E-09 |

|              |             |              |          |          |
|--------------|-------------|--------------|----------|----------|
| IL13         | 26.60335474 | 4.733536279  | 2.33E-11 | 7.32E-09 |
| SLC5A5       | 4.191068821 | 2.067318212  | 2.39E-11 | 7.37E-09 |
| SEC31B       | 0.516664748 | -0.952699644 | 2.45E-11 | 7.44E-09 |
| GABBR1       | 0.530146897 | -0.915535927 | 2.67E-11 | 7.96E-09 |
| GSDMB        | 0.52149844  | -0.939265158 | 5.52E-11 | 1.62E-08 |
| NR6A1        | 0.462810133 | -1.111507644 | 6.44E-11 | 1.85E-08 |
| ARL14        | 5.992544994 | 2.583168836  | 8.23E-11 | 2.32E-08 |
| ANGPTL4      | 1.948765735 | 0.962560672  | 1.25E-10 | 3.45E-08 |
| UBAP1L       | 0.361261981 | -1.468882661 | 1.26E-10 | 3.45E-08 |
| PMAIP1       | 1.81965924  | 0.863668308  | 1.50E-10 | 4.03E-08 |
| RP11-61J19.4 | 5.492669344 | 2.457507445  | 2.45E-10 | 6.48E-08 |
| HBEGF        | 2.152094441 | 1.105741389  | 3.18E-10 | 8.21E-08 |
| GPR3         | 2.180217825 | 1.124472281  | 3.21E-10 | 8.21E-08 |
| CTD-2639E6.9 | 9.796547675 | 3.29227343   | 3.46E-10 | 8.72E-08 |
| CLCN6        | 0.481715937 | -1.053745441 | 4.61E-10 | 1.14E-07 |
| SNORD3B-1    | 13.37242441 | 3.741189144  | 6.92E-10 | 1.69E-07 |
| HOXB5        | 0.534467692 | -0.903825354 | 9.81E-10 | 2.36E-07 |
| BCAM         | 0.575133866 | -0.798030303 | 9.95E-10 | 2.36E-07 |
| BHLHE40      | 1.738708614 | 0.798016175  | 1.17E-09 | 2.72E-07 |
| PTMA         | 0.517769346 | -0.949618541 | 1.18E-09 | 2.72E-07 |
| MLXIPL       | 0.566774264 | -0.819153845 | 1.22E-09 | 2.77E-07 |
| NFKBIA       | 1.880192673 | 0.91088051   | 1.63E-09 | 3.66E-07 |
| ARHGAP5-AS1  | 4.791076046 | 2.260349713  | 1.88E-09 | 4.16E-07 |
| STARD9       | 0.520199149 | -0.942864056 | 1.97E-09 | 4.31E-07 |
| CD01         | 8.723400328 | 3.124890598  | 2.33E-09 | 5.02E-07 |
| CD79A        | 20.44095532 | 4.353390718  | 2.77E-09 | 5.88E-07 |
| SERTAD1      | 1.807095966 | 0.853673123  | 3.00E-09 | 6.30E-07 |
| CYR61        | 1.803511012 | 0.850808232  | 3.35E-09 | 6.94E-07 |
| LTA          | 5.472020886 | 2.452073737  | 3.57E-09 | 7.31E-07 |
| ALS2CL       | 0.537191816 | -0.89649077  | 3.67E-09 | 7.41E-07 |
| HNRNPA1      | 0.566653277 | -0.819461843 | 3.86E-09 | 7.71E-07 |
| BTBD19       | 0.499438895 | -1.001619916 | 4.20E-09 | 8.29E-07 |
| C10orf10     | 3.205764164 | 1.680668296  | 4.41E-09 | 8.60E-07 |
| SRPK3        | 0.277797744 | -1.84789321  | 4.50E-09 | 8.68E-07 |
| FLJ00104     | 0.392199865 | -1.350339055 | 6.29E-09 | 1.20E-06 |
| TTLL3        | 0.532012948 | -0.910466738 | 7.27E-09 | 1.37E-06 |
| GADD45A      | 1.681892589 | 0.750085573  | 8.35E-09 | 1.55E-06 |
| DUOX1        | 0.5510098   | -0.859850117 | 8.83E-09 | 1.62E-06 |
| MIR24-2      | 1.993118724 | 0.995027649  | 1.06E-08 | 1.93E-06 |
| CDK5RAP3     | 0.575298793 | -0.797616652 | 1.11E-08 | 2.00E-06 |
| ANO9         | 0.587163658 | -0.768165419 | 1.13E-08 | 2.01E-06 |
| CEP164       | 0.535379517 | -0.901366151 | 1.15E-08 | 2.03E-06 |
| EPPK1        | 0.583077237 | -0.778241094 | 1.18E-08 | 2.06E-06 |
| MEGF8        | 0.580164029 | -0.785467245 | 1.23E-08 | 2.11E-06 |
| CCDC65       | 0.360315307 | -1.472668151 | 1.29E-08 | 2.20E-06 |
| GNRH1        | 0.360354768 | -1.472510161 | 1.33E-08 | 2.24E-06 |
| MEGF6        | 0.565576489 | -0.822205947 | 1.59E-08 | 2.66E-06 |
| GIGYF1       | 0.604098035 | -0.727145402 | 1.69E-08 | 2.80E-06 |
| MSH5         | 0.434148338 | -1.203740033 | 1.76E-08 | 2.89E-06 |
| SERPINE1     | 1.787585286 | 0.838012075  | 1.95E-08 | 3.17E-06 |
| ANPEP        | 8.830069803 | 3.142424843  | 2.00E-08 | 3.20E-06 |
| MIR600HG     | 0.44923947  | -1.154443407 | 2.23E-08 | 3.54E-06 |
| TEX19        | 3.698306175 | 1.886864667  | 2.28E-08 | 3.59E-06 |
| KCND1        | 0.506901649 | -0.980222238 | 2.30E-08 | 3.59E-06 |

|               |             |              |          |          |
|---------------|-------------|--------------|----------|----------|
| PGAP1         | 0.520372223 | -0.942384139 | 2.37E-08 | 3.67E-06 |
| TAC3          | 7.342565716 | 2.876284273  | 2.44E-08 | 3.70E-06 |
| RP11-459E5.1  | 7.584511416 | 2.923056247  | 2.44E-08 | 3.70E-06 |
| MAFB          | 6.795634011 | 2.764608156  | 2.49E-08 | 3.74E-06 |
| C2orf82       | 0.460708395 | -1.118074209 | 2.65E-08 | 3.95E-06 |
| MOBP          | 11.38166603 | 3.508639847  | 2.73E-08 | 4.03E-06 |
| RP11-186F10.2 | Inf         | Inf          | 2.80E-08 | 4.09E-06 |
| CAND2         | 5.934646047 | 2.569161987  | 3.07E-08 | 4.45E-06 |
| RP11-874J12.4 | 1.870294452 | 0.90326542   | 3.26E-08 | 4.68E-06 |
| NPC1L1        | 6.6336077   | 2.729793696  | 3.59E-08 | 5.12E-06 |
| AC015849.19   | 0.189116342 | -2.402654059 | 3.67E-08 | 5.18E-06 |
| RIT1          | 0.480030555 | -1.058801856 | 4.05E-08 | 5.67E-06 |
| FAM83C        | 13.65170857 | 3.771009617  | 4.46E-08 | 6.19E-06 |
| COL2A1        | 7.734636426 | 2.951333478  | 4.84E-08 | 6.66E-06 |
| RBM33         | 0.613465378 | -0.70494617  | 5.16E-08 | 7.05E-06 |
| NOC2L         | 0.528509792 | -0.919997894 | 5.71E-08 | 7.73E-06 |
| PTGS2         | 3.911345502 | 1.96766498   | 5.83E-08 | 7.83E-06 |
| CTC-250I14.6  | 1.611757884 | 0.68863504   | 6.10E-08 | 8.12E-06 |
| PAM16         | 0.34377161  | -1.540477689 | 6.22E-08 | 8.22E-06 |
| MAGEB3        | 8.394061855 | 3.069369094  | 6.46E-08 | 8.47E-06 |
| NBEAL2        | 0.613438559 | -0.705009242 | 6.95E-08 | 9.03E-06 |
| PLXNA3        | 0.61040387  | -0.712163985 | 7.43E-08 | 9.58E-06 |
| CCDC180       | 0.332105691 | -1.590285648 | 8.75E-08 | 1.12E-05 |
| MGAT3         | 8.199849348 | 3.035597404  | 9.40E-08 | 1.19E-05 |
| MICALL2       | 0.603677976 | -0.728148928 | 9.50E-08 | 1.20E-05 |
| ILF3-AS1      | 1.852770853 | 0.889684463  | 1.03E-07 | 1.29E-05 |
| MT-ND2        | 0.453240291 | -1.141651978 | 1.06E-07 | 1.31E-05 |
| RPSA          | 0.4816306   | -1.054001038 | 1.15E-07 | 1.41E-05 |
| KSR2          | 0.57920888  | -0.787844375 | 1.25E-07 | 1.53E-05 |
| BAG3          | 1.600500034 | 0.678522707  | 1.29E-07 | 1.55E-05 |
| NEAT1         | 0.601132364 | -0.734245402 | 1.29E-07 | 1.55E-05 |
| GAL3ST1       | 3.959495993 | 1.9853168    | 1.41E-07 | 1.68E-05 |
| ZNF469        | 0.506235394 | -0.982119716 | 1.43E-07 | 1.69E-05 |
| RHOB          | 1.600676396 | 0.678681672  | 1.44E-07 | 1.69E-05 |
| RP11-890B15.3 | 0.391449831 | -1.353100674 | 1.67E-07 | 1.96E-05 |
| ING1          | 1.660406059 | 0.731536102  | 1.70E-07 | 1.97E-05 |
| ENGASE        | 0.61954296  | -0.690723771 | 1.81E-07 | 2.09E-05 |
| ARHGAP11B     | 0.593609597 | -0.752413678 | 1.92E-07 | 2.20E-05 |
| ANKRD52       | 0.629551213 | -0.667604351 | 2.07E-07 | 2.36E-05 |
| TIGD3         | 2.92387081  | 1.547879568  | 2.34E-07 | 2.64E-05 |
| ARHGEF11      | 0.609251249 | -0.714890791 | 2.47E-07 | 2.77E-05 |
| CRIPAK        | 0.534440657 | -0.903898332 | 2.52E-07 | 2.80E-05 |
| AC009404.2    | 0.475512641 | -1.0724444   | 2.64E-07 | 2.92E-05 |
| HOTTIP        | 5.616655714 | 2.489711372  | 2.68E-07 | 2.94E-05 |
| TRIB1         | 1.580526164 | 0.660404917  | 2.70E-07 | 2.94E-05 |
| PDE6B         | 26.19266725 | 4.711091075  | 2.77E-07 | 3.01E-05 |
| MAPK8IP3      | 0.623756839 | -0.680944366 | 2.88E-07 | 3.10E-05 |
| CTC-241N9.1   | 4.373796168 | 2.128885988  | 2.97E-07 | 3.18E-05 |
| IER5          | 1.580606053 | 0.660477838  | 3.04E-07 | 3.23E-05 |
| AARSD1        | 0.167582471 | -2.57705684  | 3.08E-07 | 3.26E-05 |
| ZDHHC11       | 0.537520206 | -0.895609107 | 3.16E-07 | 3.29E-05 |
| RP5-1142A6.9  | 0.583896567 | -0.776215266 | 3.16E-07 | 3.29E-05 |
| LINC00969     | 0.557561006 | -0.842798428 | 3.17E-07 | 3.29E-05 |
| TMEM86B       | 0.504597976 | -0.986793674 | 3.24E-07 | 3.33E-05 |

|                |              |               |           |           |
|----------------|--------------|---------------|-----------|-----------|
| BTG1           | 1. 730988294 | 0. 791595968  | 3. 44E-07 | 3. 52E-05 |
| SLFNL1         | 0. 342652712 | -1. 545180988 | 3. 60E-07 | 3. 66E-05 |
| RASL12         | 15. 05003724 | 3. 911695151  | 3. 62E-07 | 3. 66E-05 |
| RAD54L2        | 0. 588508027 | -0. 764866001 | 3. 86E-07 | 3. 88E-05 |
| AC144652. 1    | 2. 918671135 | 1. 545311662  | 3. 98E-07 | 3. 97E-05 |
| GIPR           | 0. 556526533 | -0. 845477624 | 4. 02E-07 | 3. 99E-05 |
| AC005943. 5    | 3. 091606617 | 1. 628356759  | 4. 08E-07 | 4. 00E-05 |
| RP5-1142A6. 2  | 0. 480506918 | -1. 057370893 | 4. 08E-07 | 4. 00E-05 |
| ATHL1          | 0. 627169088 | -0. 673073641 | 4. 57E-07 | 4. 46E-05 |
| HTT            | 0. 635965038 | -0. 65298064  | 4. 61E-07 | 4. 47E-05 |
| PABPC1L        | 0. 626370013 | -0. 674912948 | 4. 93E-07 | 4. 75E-05 |
| RGS16          | 2. 039372388 | 1. 028125235  | 6. 17E-07 | 5. 90E-05 |
| LA16c-390E6. 4 | 0. 173638121 | -2. 525844376 | 6. 27E-07 | 5. 97E-05 |
| SNAPC4         | 0. 621117496 | -0. 687061887 | 6. 35E-07 | 6. 01E-05 |
| ELF3           | 1. 610136335 | 0. 687182851  | 6. 40E-07 | 6. 02E-05 |
| RND1           | 2. 4543381   | 1. 295334003  | 7. 44E-07 | 6. 96E-05 |
| STRADA         | 0. 422383269 | -1. 243375404 | 7. 56E-07 | 7. 01E-05 |
| PDZD4          | 5. 243798839 | 2. 390612342  | 7. 57E-07 | 7. 01E-05 |
| EEF1D          | 0. 642410421 | -0. 638432799 | 7. 82E-07 | 7. 19E-05 |
| CCNL2          | 0. 643927216 | -0. 635030467 | 8. 58E-07 | 7. 85E-05 |
| ZFAND2A        | 1. 897254394 | 0. 923913136  | 9. 37E-07 | 8. 52E-05 |
| RP3-368A4. 5   | 0. 350887227 | -1. 510920664 | 9. 55E-07 | 8. 64E-05 |
| FOSL1          | 1. 600344957 | 0. 678382914  | 1. 01E-06 | 9. 06E-05 |
| LENG8          | 0. 637577275 | -0. 649327887 | 1. 07E-06 | 9. 59E-05 |
| MIR503HG       | 0. 206792009 | -2. 273747656 | 1. 12E-06 | 9. 94E-05 |
| RP11-651P23. 5 | 9. 174402688 | 3. 197614232  | 1. 13E-06 | 9. 94E-05 |
| ATXN1          | 0. 609641942 | -0. 713965935 | 1. 13E-06 | 9. 94E-05 |
| USP36          | 0. 6350926   | -0. 654961135 | 1. 14E-06 | 9. 94E-05 |
| LPIN3          | 0. 608175636 | -0. 717440072 | 1. 14E-06 | 9. 94E-05 |
| HSPA8          | 1. 535919265 | 0. 619102383  | 1. 16E-06 | 0. 0001   |
| DIO3OS         | 0. 181980364 | -2. 458145302 | 1. 18E-06 | 0. 000101 |
| C1orf213       | 2. 451929667 | 1. 293917597  | 1. 25E-06 | 0. 000107 |
| KLF4           | 1. 796131763 | 0. 844893189  | 1. 34E-06 | 0. 000114 |
| NOVA2          | 0. 575822452 | -0. 796304051 | 1. 41E-06 | 0. 00012  |
| KMT2C          | 0. 63795897  | -0. 648464454 | 1. 47E-06 | 0. 000124 |
| DNAJB4         | 1. 615250241 | 0. 691757691  | 1. 47E-06 | 0. 000124 |
| C8orf46        | 6. 363702458 | 2. 669866382  | 1. 48E-06 | 0. 000124 |
| POLE           | 0. 654426414 | -0. 611697114 | 1. 52E-06 | 0. 000126 |
| HSPA1A         | 3. 175833871 | 1. 667135447  | 1. 53E-06 | 0. 000126 |
| PILRB          | 0. 429931702 | -1. 217820599 | 1. 54E-06 | 0. 000126 |
| WDR27          | 0. 620387926 | -0. 688757486 | 1. 55E-06 | 0. 000127 |
| IL8            | 2. 270886712 | 1. 183255736  | 1. 60E-06 | 0. 00013  |
| SGSM2          | 0. 64872337  | -0. 624324684 | 1. 61E-06 | 0. 00013  |
| PPFIA4         | 0. 588082826 | -0. 765908736 | 1. 63E-06 | 0. 000131 |
| 1-Mar          | 0. 438058932 | -1. 190803125 | 1. 64E-06 | 0. 000132 |
| UNC13A         | 0. 617434673 | -0. 695641593 | 1. 72E-06 | 0. 000137 |
| PAQR6          | 0. 501720551 | -0. 995044062 | 1. 79E-06 | 0. 000142 |
| KIF21B         | 0. 577128314 | -0. 793035983 | 1. 81E-06 | 0. 000143 |
| NISCH          | 0. 654286191 | -0. 612006272 | 1. 94E-06 | 0. 000152 |
| AP1G2          | 0. 646256293 | -0. 62982167  | 1. 94E-06 | 0. 000152 |
| SLC16A11       | 7. 670507168 | 2. 939321971  | 1. 96E-06 | 0. 000153 |
| GALR2          | 7. 700887332 | 2. 945024689  | 1. 97E-06 | 0. 000153 |
| HECTD4         | 0. 631515764 | -0. 663109347 | 2. 00E-06 | 0. 000154 |
| SPPL2B         | 0. 637270775 | -0. 650021593 | 2. 00E-06 | 0. 000154 |

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| TBC1D16        | 0.645196999 | -0.632188367 | 2.02E-06 | 0.000154 |
| IER2           | 1.542068532 | 0.624866882  | 2.05E-06 | 0.000156 |
| DDX39B         | 0.655984672 | -0.60826599  | 2.16E-06 | 0.000163 |
| HOXB-AS3       | 0.641836003 | -0.639723377 | 2.20E-06 | 0.000166 |
| PLXNB1         | 0.6407098   | -0.642257037 | 2.23E-06 | 0.000167 |
| PNRC1          | 1.671521302 | 0.741161741  | 2.40E-06 | 0.000179 |
| KIAA0195       | 0.634166641 | -0.657066105 | 2.45E-06 | 0.000182 |
| HYPK           | 0.504844907 | -0.986087847 | 2.45E-06 | 0.000182 |
| LTB4R          | 0.592366982 | -0.755436867 | 2.47E-06 | 0.000182 |
| ZFHX4          | 0.601571032 | -0.733192999 | 2.52E-06 | 0.000185 |
| C22orf29       | 0.625162758 | -0.677696258 | 2.58E-06 | 0.000189 |
| NFRKB          | 0.631374212 | -0.663432759 | 2.60E-06 | 0.000189 |
| ZNF853         | 8.679636151 | 3.117634566  | 2.64E-06 | 0.000192 |
| D2HGDH         | 0.62329548  | -0.682011844 | 2.66E-06 | 0.000192 |
| DGCR8          | 0.641153826 | -0.641257565 | 2.72E-06 | 0.000195 |
| CHRNA10        | 0.299939403 | -1.737257033 | 2.80E-06 | 0.0002   |
| RNF207         | 0.637382519 | -0.649768642 | 2.81E-06 | 0.0002   |
| HOXB6          | 0.654045158 | -0.612537847 | 2.84E-06 | 0.000201 |
| DNHD1          | 0.614232313 | -0.703143684 | 2.94E-06 | 0.000207 |
| KLF10          | 1.528069762 | 0.611710409  | 3.01E-06 | 0.000211 |
| OVOL1          | 1.682522657 | 0.750625932  | 3.02E-06 | 0.000211 |
| RP11-513I15.6  | 0.621104719 | -0.687091566 | 3.13E-06 | 0.000218 |
| RP11-334C17.5  | 0.548343346 | -0.866848574 | 3.16E-06 | 0.000219 |
| SLX4           | 0.623017834 | -0.682654634 | 3.23E-06 | 0.000223 |
| PRDM12         | 6.735364209 | 2.75175596   | 3.25E-06 | 0.000224 |
| MAN2C1         | 0.638618778 | -0.646973119 | 3.28E-06 | 0.000225 |
| CDK10          | 0.658798456 | -0.602090921 | 3.40E-06 | 0.000232 |
| DST            | 0.666799819 | -0.584674383 | 3.42E-06 | 0.000232 |
| SGSH           | 0.620533426 | -0.68841917  | 3.43E-06 | 0.000232 |
| WDR73          | 0.634221554 | -0.656941187 | 3.55E-06 | 0.000239 |
| LINC00640      | 0.370328717 | -1.433121668 | 3.62E-06 | 0.000243 |
| RP11-66N24.3   | 0.619588964 | -0.690616648 | 3.64E-06 | 0.000243 |
| CTB-119C2.1    | 4.289197143 | 2.100707628  | 3.75E-06 | 0.000249 |
| LY6G5B         | 0.334362922 | -1.580513223 | 3.78E-06 | 0.00025  |
| CDK12          | 0.651719651 | -0.617676598 | 3.90E-06 | 0.000258 |
| PTPN14         | 0.61333801  | -0.705245734 | 3.93E-06 | 0.000258 |
| ASH1L          | 0.652877599 | -0.615115553 | 3.95E-06 | 0.000259 |
| DOCK5          | 0.661205012 | -0.596830434 | 4.00E-06 | 0.000261 |
| RP11-1407015.2 | 0.553278355 | -0.853922609 | 4.03E-06 | 0.000261 |
| CHD7           | 0.660881975 | -0.597535447 | 4.04E-06 | 0.000261 |
| MT-CO2         | 0.567669698 | -0.816876362 | 4.07E-06 | 0.000263 |
| PRSS53         | 0.469460043 | -1.090925725 | 4.17E-06 | 0.000268 |
| FAM229A        | 0.544657992 | -0.876577494 | 4.19E-06 | 0.000268 |
| RTEL1-TNFRSF6B | 0.415392949 | -1.267451367 | 4.26E-06 | 0.000271 |
| THBS3          | 0.579569205 | -0.786947154 | 4.53E-06 | 0.000288 |
| RP11-325N19.3  | 5.910427952 | 2.563262594  | 4.62E-06 | 0.000292 |
| ZNF276         | 0.661870541 | -0.595379035 | 4.64E-06 | 0.000292 |
| DNAJA1         | 1.560104774 | 0.641642922  | 4.77E-06 | 0.000299 |
| OSER1-AS1      | 2.480142451 | 1.310422987  | 4.97E-06 | 0.000311 |
| BRD9           | 0.652313824 | -0.616361893 | 5.36E-06 | 0.000334 |
| ATP2B4         | 0.646604757 | -0.629043974 | 5.47E-06 | 0.00034  |
| RP3-467N11.1   | 3.059990997 | 1.613527408  | 5.60E-06 | 0.000346 |
| RASL11A        | 1.909101663 | 0.932893931  | 5.68E-06 | 0.00035  |
| ZNF501         | 12.08301552 | 3.594908643  | 5.93E-06 | 0.000364 |

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| L3MBTL1       | 0.606660149 | -0.721039549 | 5.97E-06 | 0.000365 |
| LINC00342     | 0.546121075 | -0.872707263 | 6.17E-06 | 0.000376 |
| TCTE1         | 4.231769469 | 2.081261037  | 6.41E-06 | 0.000389 |
| KCNN1         | 2.8483426   | 1.510122685  | 6.56E-06 | 0.000396 |
| VPS13D        | 0.655312649 | -0.609744717 | 6.70E-06 | 0.000403 |
| CACNB1        | 0.548840849 | -0.865540234 | 6.92E-06 | 0.000415 |
| ABCA7         | 0.668295888 | -0.581441097 | 7.02E-06 | 0.000419 |
| AEBP1         | 6.323165779 | 2.660647044  | 7.03E-06 | 0.000419 |
| KAZALD1       | 1.685470642 | 0.753151499  | 7.11E-06 | 0.000422 |
| MAPKBP1       | 0.641497702 | -0.640483999 | 7.17E-06 | 0.000424 |
| LNPEP         | 0.605729719 | -0.723253898 | 7.30E-06 | 0.00043  |
| AC062029.1    | 2.283504593 | 1.191249692  | 7.35E-06 | 0.000431 |
| RNF213        | 0.672065564 | -0.573326112 | 7.54E-06 | 0.000441 |
| SMG1          | 0.677040349 | -0.562686279 | 7.69E-06 | 0.000448 |
| RGS2          | 1.625899268 | 0.701237879  | 7.71E-06 | 0.000448 |
| MIR17HG       | 0.324162617 | -1.625210366 | 7.94E-06 | 0.000459 |
| TSSK3         | 0.522136699 | -0.937500532 | 8.13E-06 | 0.000469 |
| KIAA1462      | 0.651043967 | -0.619173119 | 8.23E-06 | 0.000473 |
| RP11-467D6.1  | 4.710995686 | 2.236032011  | 8.29E-06 | 0.000475 |
| RP11-448G15.3 | 0.520959705 | -0.940756307 | 8.47E-06 | 0.000483 |
| NPIPA1        | 0.247577557 | -2.014047554 | 8.81E-06 | 0.000501 |
| SULT4A1       | 0.513116871 | -0.962640635 | 8.91E-06 | 0.000505 |
| CSRNP1        | 1.601189661 | 0.679144206  | 9.49E-06 | 0.000536 |
| AGO1          | 0.674091395 | -0.568983885 | 9.52E-06 | 0.000536 |
| IRF4          | 12.51450661 | 3.645529508  | 9.62E-06 | 0.000538 |
| CLDND2        | 4.033644631 | 2.012083986  | 9.63E-06 | 0.000538 |
| ANKRD30BL     | 7.801574561 | 2.963765327  | 9.67E-06 | 0.000538 |
| KRTAP5-AS1    | 4.704098019 | 2.233918122  | 9.72E-06 | 0.000539 |
| RP11-909N17.2 | 0.388792075 | -1.362929285 | 9.78E-06 | 0.000541 |
| SLC6A3        | 22.00778089 | 4.459941776  | 9.91E-06 | 0.000547 |
| AGRN          | 0.674305279 | -0.568526203 | 1.01E-05 | 0.000555 |
| HDAC10        | 0.343736635 | -1.540624474 | 1.05E-05 | 0.000574 |
| MAPK15        | 0.613504845 | -0.704853358 | 1.06E-05 | 0.000578 |
| SPEN          | 0.67796064  | -0.560726577 | 1.11E-05 | 0.000603 |
| RP5-1057J7.6  | 0.455643815 | -1.134021611 | 1.11E-05 | 0.000603 |
| RP11-295P9.3  | 0.584416151 | -0.774932045 | 1.13E-05 | 0.000608 |
| RP11-770G2.5  | 1.875170063 | 0.907021442  | 1.15E-05 | 0.000621 |
| TOB1          | 1.491881524 | 0.577132971  | 1.17E-05 | 0.000627 |
| MAFF          | 1.588273009 | 0.667458919  | 1.22E-05 | 0.000653 |
| TCIRG1        | 0.659446483 | -0.600672511 | 1.24E-05 | 0.000662 |
| CTIF          | 0.638196116 | -0.647928266 | 1.26E-05 | 0.00067  |
| ZBTB40        | 0.66107706  | -0.597109642 | 1.26E-05 | 0.00067  |
| LRRC43        | 9.108717434 | 3.187247928  | 1.27E-05 | 0.000673 |
| OSM           | 8.682267349 | 3.118071847  | 1.28E-05 | 0.000675 |
| PDE1B         | 5.275812983 | 2.399393425  | 1.30E-05 | 0.00068  |
| UVSSA         | 0.630879985 | -0.664562514 | 1.30E-05 | 0.00068  |
| UBR4          | 0.682337293 | -0.551443026 | 1.30E-05 | 0.00068  |
| CSF1R         | 9.23588612  | 3.207250385  | 1.32E-05 | 0.000687 |
| PPP1R26-AS1   | 2.687139061 | 1.426070984  | 1.33E-05 | 0.000691 |
| SRCAP         | 0.681800342 | -0.552578771 | 1.38E-05 | 0.000711 |
| NR4A2         | 1.522687898 | 0.606620266  | 1.40E-05 | 0.000719 |
| POU2F1        | 0.664112938 | -0.590499489 | 1.42E-05 | 0.00073  |
| SYNE2         | 0.675424885 | -0.566132761 | 1.45E-05 | 0.000736 |
| SLC13A3       | 7.464139406 | 2.899975931  | 1.45E-05 | 0.000736 |

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| MIS12          | 1. 565877705 | 0. 646971543  | 1. 45E-05 0. 000736 |
| NRG7           | 5. 57462841  | 2. 478875642  | 1. 45E-05 0. 000736 |
| EXPH5          | 0. 612324726 | -0. 707631153 | 1. 48E-05 0. 000747 |
| NRBP2          | 0. 664313644 | -0. 59006355  | 1. 52E-05 0. 000767 |
| KRCC1          | 1. 824638764 | 0. 867610873  | 1. 54E-05 0. 000774 |
| BBC3           | 1. 530849754 | 0. 614332696  | 1. 56E-05 0. 000781 |
| BCL10          | 1. 583264085 | 0. 662901914  | 1. 57E-05 0. 000782 |
| PHC3           | 0. 663181945 | -0. 592523365 | 1. 62E-05 0. 000804 |
| KMT2A          | 0. 68719032  | -0. 541218381 | 1. 62E-05 0. 000806 |
| ATAD3B         | 0. 66694172  | -0. 584367396 | 1. 66E-05 0. 00082  |
| NF1            | 0. 629569076 | -0. 667563417 | 1. 68E-05 0. 000829 |
| RP11-485G4. 2  | 0. 540216411 | -0. 888390628 | 1. 72E-05 0. 000843 |
| DDI2           | 0. 662617386 | -0. 593752037 | 1. 73E-05 0. 000848 |
| KIAA0754       | 0. 580155527 | -0. 785488387 | 1. 76E-05 0. 00086  |
| STAT2          | 0. 669793978 | -0. 57821069  | 1. 78E-05 0. 000868 |
| LINC00202-1    | 0. 467025728 | -1. 098426067 | 1. 79E-05 0. 000868 |
| PIEZO1         | 0. 683504708 | -0. 54897682  | 1. 84E-05 0. 000891 |
| FRMD4A         | 0. 511313563 | -0. 967719801 | 1. 84E-05 0. 000891 |
| NKTR           | 0. 687701779 | -0. 540145017 | 1. 86E-05 0. 000898 |
| LINC00899      | 5. 091788961 | 2. 348172625  | 1. 88E-05 0. 000903 |
| MAVS           | 0. 684874905 | -0. 546087597 | 1. 90E-05 0. 000908 |
| NPHP3          | 0. 613449273 | -0. 704984044 | 1. 91E-05 0. 000912 |
| TUBGCP6        | 0. 674440054 | -0. 568237877 | 1. 92E-05 0. 000916 |
| DUSP5          | 1. 497887575 | 0. 582929346  | 1. 96E-05 0. 000929 |
| SLC30A1        | 1. 54609776  | 0. 628631544  | 1. 96E-05 0. 000929 |
| CHMP1B         | 1. 500523737 | 0. 585466141  | 1. 97E-05 0. 000931 |
| PLEKHH1        | 0. 64920149  | -0. 623261784 | 1. 98E-05 0. 000932 |
| RP4-798A10. 7  | 3. 067235956 | 1. 616939154  | 1. 99E-05 0. 000932 |
| ARRDC3         | 1. 561866915 | 0. 643271528  | 2. 02E-05 0. 000945 |
| LAPTM5         | 8. 607431259 | 3. 105582754  | 2. 04E-05 0. 000954 |
| P2RX2          | 0. 203316871 | -2. 298198162 | 2. 13E-05 0. 000988 |
| NOTCH3         | 0. 675793368 | -0. 565345903 | 2. 13E-05 0. 000988 |
| RP11-350F4. 2  | 0. 549271216 | -0. 864409404 | 2. 14E-05 0. 00099  |
| CLK2           | 0. 641165727 | -0. 641230785 | 2. 15E-05 0. 000993 |
| TNFRSF25       | 0. 639577455 | -0. 64480901  | 2. 18E-05 0. 001002 |
| FN3K           | 0. 282997858 | -1. 821136962 | 2. 21E-05 0. 001011 |
| SH3BP2         | 0. 678738168 | -0. 559072952 | 2. 21E-05 0. 001011 |
| LINC00085      | 0. 385000093 | -1. 377069299 | 2. 23E-05 0. 001019 |
| NCAN           | 4. 326559519 | 2. 11322025   | 2. 28E-05 0. 001036 |
| FANCA          | 0. 686518122 | -0. 542630292 | 2. 29E-05 0. 001039 |
| TUBG2          | 0. 613555    | -0. 704735419 | 2. 30E-05 0. 00104  |
| TNRC6B         | 0. 667353966 | -0. 583475923 | 2. 31E-05 0. 001043 |
| CTD-2184C24. 2 | 7. 073059017 | 2. 822334299  | 2. 33E-05 0. 001046 |
| SLC26A6        | 0. 675448851 | -0. 566081571 | 2. 33E-05 0. 001046 |
| KLC1           | 0. 647574208 | -0. 626882568 | 2. 38E-05 0. 001065 |
| RP11-384K6. 6  | 0. 417055925 | -1. 26168724  | 2. 39E-05 0. 001065 |
| NFKBID         | 0. 463941889 | -1. 107983984 | 2. 40E-05 0. 001067 |
| MT-ND4L        | 0. 421614522 | -1. 246003535 | 2. 42E-05 0. 001076 |
| WDR62          | 0. 660671177 | -0. 59799569  | 2. 43E-05 0. 001077 |
| PPP1R13B       | 0. 622324936 | -0. 68426004  | 2. 54E-05 0. 001119 |
| ADCY6          | 0. 672362477 | -0. 572688882 | 2. 59E-05 0. 001142 |
| RNF43          | 0. 69036143  | -0. 534576231 | 2. 62E-05 0. 001149 |
| LGR5           | 3. 561535016 | 1. 832499175  | 2. 70E-05 0. 001181 |
| AC093642. 3    | 0. 18743909  | -2. 415506236 | 2. 73E-05 0. 001191 |



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| RBM5          | 0.680958463 | -0.554361296 | 2.76E-05 | 0.001203 |
| DOCK6         | 0.663804215 | -0.591170304 | 2.78E-05 | 0.001209 |
| SERPINH1      | 1.482169166 | 0.567710117  | 2.90E-05 | 0.001257 |
| HMBX1         | 0.616963908 | -0.696742    | 2.94E-05 | 0.001271 |
| MLXIP         | 0.689643474 | -0.536077373 | 3.11E-05 | 0.001341 |
| RP11-68606.2  | 3.89150142  | 1.960326883  | 3.12E-05 | 0.001343 |
| BPTF          | 0.687202191 | -0.54119346  | 3.17E-05 | 0.001359 |
| FAM129C       | 5.611914249 | 2.488492964  | 3.23E-05 | 0.001383 |
| ITGB2         | 10.74536986 | 3.425643237  | 3.24E-05 | 0.001383 |
| CETP          | 8.103965414 | 3.018628017  | 3.27E-05 | 0.001389 |
| KIAA1244      | 0.651718436 | -0.617679287 | 3.30E-05 | 0.001401 |
| RAB34         | 3.692675638 | 1.884666543  | 3.33E-05 | 0.00141  |
| TTN           | 0.638595064 | -0.647026693 | 3.37E-05 | 0.001422 |
| PIK3C2B       | 0.63538622  | -0.654294294 | 3.40E-05 | 0.001432 |
| UBN2          | 0.645909803 | -0.630595379 | 3.44E-05 | 0.001446 |
| RP11-875011.2 | 6.168836523 | 2.624998415  | 3.51E-05 | 0.001465 |
| RP11-725P16.2 | 3.605781624 | 1.850312026  | 3.51E-05 | 0.001465 |
| AC069513.4    | 6.80149634  | 2.765852176  | 3.56E-05 | 0.001485 |
| C10orf12      | 0.583861569 | -0.776301741 | 3.58E-05 | 0.001487 |
| DLGAP2        | 7.233708689 | 2.8547355    | 3.59E-05 | 0.001488 |
| DENND6B       | 0.603853837 | -0.727728709 | 3.62E-05 | 0.001498 |
| LAMB2         | 0.692269582 | -0.530594137 | 3.71E-05 | 0.001531 |
| PRDM7         | 3.477065089 | 1.797870074  | 3.72E-05 | 0.001532 |
| KLHL17        | 0.679938431 | -0.556523979 | 3.80E-05 | 0.001561 |
| CD37          | 0.583017467 | -0.778388989 | 3.95E-05 | 0.001617 |
| ARHGEF4       | 0.653373311 | -0.61402057  | 4.06E-05 | 0.001659 |
| MAP2K2        | 0.60556917  | -0.723636337 | 4.12E-05 | 0.001677 |
| ARSA          | 0.620028582 | -0.689593373 | 4.14E-05 | 0.001683 |
| MKLN1-AS1     | 1.946846938 | 0.961139464  | 4.18E-05 | 0.001695 |
| ZNF292        | 0.659818374 | -0.599859142 | 4.20E-05 | 0.001695 |
| CEBPD         | 2.081529283 | 1.057643854  | 4.20E-05 | 0.001695 |
| AHNAK         | 0.677475272 | -0.561759807 | 4.42E-05 | 0.00178  |
| PLCG1         | 0.692672009 | -0.52975572  | 4.51E-05 | 0.001807 |
| PHLDA2        | 1.43016351  | 0.516180099  | 4.51E-05 | 0.001807 |
| RP11-390E23.6 | 2.2548807   | 1.173051106  | 4.56E-05 | 0.001823 |
| SPTB          | 0.651811509 | -0.61747327  | 4.59E-05 | 0.001828 |
| ITPKC         | 1.540580523 | 0.623474091  | 4.66E-05 | 0.00185  |
| PPARGC1B      | 0.638121673 | -0.64809656  | 4.67E-05 | 0.001851 |
| IGSF9B        | 0.534636533 | -0.903369671 | 4.72E-05 | 0.001867 |
| CHORDC1       | 1.478874883 | 0.564500002  | 4.82E-05 | 0.001904 |
| CTGF          | 1.576767718 | 0.656970144  | 4.87E-05 | 0.001918 |
| PLK2          | 1.44575322  | 0.531821315  | 4.89E-05 | 0.001919 |
| AC114730.7    | 0.420331678 | -1.250399907 | 4.92E-05 | 0.001927 |
| RPS3A         | 0.635542647 | -0.653939156 | 4.94E-05 | 0.001932 |
| JMJD6         | 1.446769602 | 0.532835192  | 5.06E-05 | 0.001971 |
| COX20         | 0.67714859  | -0.562455648 | 5.10E-05 | 0.001984 |
| C17orf74      | 7.991215862 | 2.998415026  | 5.20E-05 | 0.002019 |
| FBXW10        | 6.01249174  | 2.587963007  | 5.22E-05 | 0.002022 |
| PKD1          | 0.677954993 | -0.560738594 | 5.45E-05 | 0.002103 |
| CTC-338M12.4  | 2.248755939 | 1.169127092  | 5.50E-05 | 0.002119 |
| EDN2          | 4.853770686 | 2.279105951  | 5.64E-05 | 0.002168 |
| CDH23         | 4.711466424 | 2.236176163  | 5.65E-05 | 0.002168 |
| ANKRD36       | 0.459672796 | -1.121320807 | 5.70E-05 | 0.002182 |
| TSPYL4        | 1.592303722 | 0.671115547  | 5.83E-05 | 0.002224 |

|               |             |              |             |          |
|---------------|-------------|--------------|-------------|----------|
| C1R           | 2.345450924 | 1.229865314  | 5.97E-05    | 0.002272 |
| CALML4        | 0.623239068 | -0.682142423 | 5.99E-05    | 0.002276 |
| JHDM1D-AS1    | 2.948214036 | 1.559841266  | 6.01E-05    | 0.002278 |
| SNHG11        | 1.821965031 | 0.86549527   | 6.04E-05    | 0.002279 |
| ZGPAT         | 0.528142481 | -0.921000906 | 6.04E-05    | 0.002279 |
| SGK2          | 0.368341278 | -1.440885012 | 6.05E-05    | 0.002279 |
| RP3-512B11.3  | 3.023828654 | 1.596376391  | 6.18E-05    | 0.002322 |
| KIAA1109      | 0.690448355 | -0.534394589 | 6.21E-05    | 0.002326 |
| CXorf23       | 0.571917645 | -0.806120678 | 6.26E-05    | 0.002339 |
| PYGM          | 2.072942576 | 1.051680152  | 6.32E-05    | 0.002356 |
| ZBTB37        | 0.652779884 | -0.615331494 | 6.39E-05    | 0.002379 |
| AGAP1         | 0.675580451 | -0.565800512 | 6.42E-05    | 0.002385 |
| FAM83E        | 2.799289206 | 1.485060545  | 6.62E-05    | 0.002454 |
| RP5-1068E13.7 | 3.368170889 | 1.751965337  | 6.65E-05    | 0.00246  |
| LINC00176     | 0.367249757 | -1.445166557 | 6.68E-05    | 0.002462 |
| CCDC84        | 0.662973261 | -0.59297741  | 6.98E-05    | 0.002569 |
| SLC6A16       | 0.524353319 | -0.931388841 | 7.11E-05    | 0.002612 |
| IL2RB         | 5.169691789 | 2.370078271  | 7.22E-05    | 0.002645 |
| AHSA1         | 1.426610274 | 0.512591268  | 7.44E-05    | 0.00272  |
| ALYREF        | 1.419924047 | 0.505813761  | 7.48E-05    | 0.002726 |
| CDKN1A        | 1.496933406 | 0.582010042  | 7.49E-05    | 0.002726 |
| RP11-199F11.2 | 2.747911201 | 1.458335384  | 7.58E-05    | 0.002754 |
| UBC           | 1.496960368 | 0.582036027  | 7.79E-05    | 0.002823 |
| C15orf52      | 0.635698985 | -0.653584309 | 7.84E-05    | 0.002827 |
| MAMDC4        | 0.648630929 | -0.624530276 | 7.84E-05    | 0.002827 |
| CTC1          | 0.681808062 | -0.552562436 | 7.97E-05    | 0.002867 |
| CKS2          | 1.43072122  | 0.516742586  | 7.99E-05    | 0.002867 |
| PLAUR         | 1.460253384 | 0.546218728  | 8.00E-05    | 0.002867 |
| CTD-2031P19.3 | 4.620800644 | 2.208142849  | 8.13E-05    | 0.002907 |
| RP11-473I1.10 | 0.664484379 | -0.58969281  | 8.20E-05    | 0.002923 |
| RFPL1S        | 4.570821827 | 2.192453583  | 8.21E-05    | 0.002923 |
| POLR1A        | 0.699377961 | -0.51585576  | 8.24E-05    | 0.002927 |
| PLXNA1        | 0.706201333 | -0.50184855  | 8.26E-05    | 0.002928 |
| TANC2         | 0.696134135 | -0.522562776 | 8.32E-05    | 0.002941 |
| RP11-379H18.1 | 1.684703187 | 0.752494438  | 8.37E-05    | 0.002948 |
| CCDC57        | 0.700584109 | -0.513369831 | 8.37E-05    | 0.002948 |
| ASIC1         | 0.689241381 | -0.536918773 | 8.50E-05    | 0.002987 |
| RUSC1-AS1     | 0.598229381 | -0.741229328 | 8.58E-05    | 0.00301  |
| TGFBR2        | 0.666239198 | -0.585887858 | 8.62E-05    | 0.003015 |
| LINC01004     | 4.044708405 | 2.016035698  | 8.73E-05    | 0.003049 |
| LRP1          | 0.703067004 | -0.508265906 | 8.78E-05    | 0.003058 |
| SYNGAP1       | 0.656525023 | -0.607078096 | 8.93E-05    | 0.003104 |
| C11orf35      | 0.580382604 | -0.784923817 | 9.08E-05    | 0.003151 |
| H2AFJ         | 1.592497971 | 0.671291535  | 9.31E-05    | 0.003225 |
| MYOZ3         | 4.872580437 | 2.284686002  | 9.42E-05    | 0.003255 |
| REC8          | 0.475305764 | -1.073072198 | 9.58E-05    | 0.003302 |
| LINC01024     | 2.686520395 | 1.425738791  | 9.60E-05    | 0.003302 |
| C15orf39      | 0.639587502 | -0.644786348 | 9.77E-05    | 0.003355 |
| ABCC10        | 0.669593403 | -0.57864278  | 9.88E-05    | 0.003384 |
| RIMS3         | 0.666299751 | -0.58575674  | 0.000100651 | 0.003441 |
| ZNF445        | 0.675308707 | -0.566380937 | 0.000101105 | 0.003449 |
| RP11-496I9.1  | 0.520974903 | -0.94071422  | 0.000101759 | 0.003464 |
| CDC42BPB      | 0.710372223 | -0.493352924 | 0.000103029 | 0.0035   |
| KIAA1683      | 1.639469318 | 0.713228903  | 0.00010378  | 0.003519 |

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| VPS18          | 0.656011867 | -0.608206183 | 0.000105131 | 0.003557 |
| IDUA           | 0.598365099 | -0.740902066 | 0.000106031 | 0.00358  |
| ECHDC2         | 0.656012475 | -0.608204846 | 0.000106374 | 0.003584 |
| MSS51          | 0.370889468 | -1.430938793 | 0.000106608 | 0.003585 |
| RP11-156L14.1  | 5.138191191 | 2.361260574  | 0.000107279 | 0.0036   |
| LRP5L          | 0.544034582 | -0.878229735 | 0.000108687 | 0.003633 |
| C6orf132       | 0.637728147 | -0.648986538 | 0.000108718 | 0.003633 |
| SKIV2L         | 0.69220298  | -0.530732943 | 0.000110897 | 0.003696 |
| NDST1          | 0.698564921 | -0.517533897 | 0.00011105  | 0.003696 |
| FBXW7          | 0.663521995 | -0.591783804 | 0.000112794 | 0.003746 |
| RICTOR         | 0.660766562 | -0.597787414 | 0.000113008 | 0.003746 |
| LAMA2          | 1.502852071 | 0.587703009  | 0.000117757 | 0.003896 |
| HSPG2          | 0.703967836 | -0.50641858  | 0.000118368 | 0.003908 |
| TBX3           | 1.606361426 | 0.683796531  | 0.000119201 | 0.003928 |
| EWSR1          | 0.703272023 | -0.507845269 | 0.00012133  | 0.00399  |
| FBN3           | 0.6394822   | -0.645023893 | 0.000121808 | 0.00399  |
| EP400NL        | 0.567444328 | -0.817449238 | 0.000121835 | 0.00399  |
| RP11-600F24.7  | 2.669098157 | 1.416352362  | 0.000122475 | 0.004001 |
| TMEM63A        | 0.670711691 | -0.576235345 | 0.000122647 | 0.004001 |
| NTSR1          | 0.70825899  | -0.497651086 | 0.000123167 | 0.00401  |
| CSTF3          | 1.426042189 | 0.512016665  | 0.000127626 | 0.004147 |
| RP11-229P13.15 | 0.101030463 | -3.307137729 | 0.000132649 | 0.004302 |
| SLC4A3         | 0.64057188  | -0.642567627 | 0.000133313 | 0.004314 |
| FARP2          | 0.695058845 | -0.524792971 | 0.000133719 | 0.004319 |
| CHRN2          | 4.223131992 | 2.078313339  | 0.000136435 | 0.004398 |
| JMJD7-PLA2G4B  | 0.494034361 | -1.017316709 | 0.000136833 | 0.004402 |
| ABL2           | 0.688094985 | -0.539320366 | 0.000138225 | 0.004438 |
| ARFGAP1        | 0.710210526 | -0.493681352 | 0.000139745 | 0.004478 |
| ZNF704         | 0.692718517 | -0.529658856 | 0.000143966 | 0.004605 |
| FAM73B         | 0.667736101 | -0.582650054 | 0.000145381 | 0.004638 |
| SPC25          | 1.511776497 | 0.596244865  | 0.000145584 | 0.004638 |
| CREM           | 1.555009879 | 0.636923745  | 0.00014674  | 0.004666 |
| PRDM15         | 0.641846081 | -0.639700723 | 0.000148825 | 0.004723 |
| PDPR           | 0.697929169 | -0.518847467 | 0.000150817 | 0.004777 |
| TULP4          | 0.659180839 | -0.601253787 | 0.000151843 | 0.0048   |
| TGFB1I1        | 1.700813992 | 0.76622537   | 0.000152977 | 0.004827 |
| OSBPL7         | 0.673239645 | -0.570807961 | 0.000154567 | 0.004868 |
| ABCB6          | 0.325682218 | -1.618463143 | 0.000155169 | 0.004877 |
| KCNAB3         | 0.473791654 | -1.077675309 | 0.000155572 | 0.004881 |
| PPM1D          | 1.451897434 | 0.537939541  | 0.000156161 | 0.004883 |
| RP11-16P6.1    | 0.332376879 | -1.589108067 | 0.000156249 | 0.004883 |
| BTG3           | 1.415122077 | 0.500926514  | 0.000157648 | 0.004917 |
| ATG16L2        | 0.657637064 | -0.604636484 | 0.000158116 | 0.004923 |
| BLK            | 0.389212732 | -1.36136919  | 0.000162283 | 0.005043 |
| KIAA0232       | 0.692172557 | -0.530796352 | 0.000164461 | 0.005097 |
| NOXA1          | 0.642585141 | -0.638040475 | 0.000164654 | 0.005097 |
| THAP10         | 2.13981041  | 1.097482978  | 0.000167482 | 0.005175 |
| SFTPC          | 3.821832029 | 1.934264373  | 0.000171155 | 0.005277 |
| RP11-348P10.2  | 0.396871782 | -1.333255108 | 0.000171445 | 0.005277 |
| NABP1          | 0.694096449 | -0.526791947 | 0.000174036 | 0.005347 |
| VWCE           | 0.406905898 | -1.297232903 | 0.000174445 | 0.00535  |
| BSN            | 0.549938616 | -0.8626575   | 0.000174918 | 0.005354 |
| LTB4R2         | 0.438267699 | -1.190115742 | 0.000176019 | 0.005378 |
| RP11-181G12.2  | 0.491613016 | -1.024404983 | 0.00017672  | 0.005389 |

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| RBMS2         | 0.639506668 | -0.644968692 | 0.000177656 | 0.005408 |
| RFPL3S        | 2.403591136 | 1.265191507  | 0.000178026 | 0.005409 |
| GPC2          | 0.611496212 | -0.709584534 | 0.000180448 | 0.005463 |
| DGKD          | 0.702055342 | -0.510343333 | 0.000180477 | 0.005463 |
| FAM193B       | 0.689663706 | -0.53603505  | 0.000181044 | 0.00547  |
| CHAD          | 0.394807141 | -1.34078001  | 0.000181852 | 0.005484 |
| DICER1        | 0.710443968 | -0.493207225 | 0.000184539 | 0.005555 |
| MAP3K9        | 0.694892348 | -0.525138601 | 0.000188364 | 0.00566  |
| TNRC6A        | 0.71194984  | -0.490152494 | 0.000192834 | 0.005784 |
| SRRM2         | 0.674798527 | -0.567471271 | 0.000193394 | 0.00579  |
| RP1-63G5.7    | 2.950543966 | 1.560980956  | 0.000196806 | 0.005881 |
| RP11-1055B8.7 | 0.712429328 | -0.489181186 | 0.000198793 | 0.00593  |
| ANKS6         | 0.70604425  | -0.502169489 | 0.000199399 | 0.005937 |
| RP11-22C11.2  | 2.238203635 | 1.1623413    | 0.000204213 | 0.006069 |
| EGLN2         | 0.513115666 | -0.962644021 | 0.00020498  | 0.006081 |
| RP11-293M10.6 | 3.064930385 | 1.615854306  | 0.000206026 | 0.006094 |
| TAF1C         | 0.717484604 | -0.47898022  | 0.000206207 | 0.006094 |
| IFT122        | 0.659101428 | -0.601427598 | 0.000206878 | 0.006094 |
| RP11-71H17.9  | 0.31256333  | -1.677779565 | 0.000206898 | 0.006094 |
| SFN           | 1.399325015 | 0.48473109   | 0.0002094   | 0.006156 |
| HNRNPU-AS1    | 0.708148683 | -0.497875794 | 0.000211506 | 0.006207 |
| OBSCN         | 0.699602497 | -0.515392655 | 0.000214605 | 0.006287 |
| RP11-180C16.1 | 0.655262051 | -0.609856113 | 0.000215711 | 0.006308 |
| RGL3          | 0.699424011 | -0.51576077  | 0.0002174   | 0.006331 |
| CASC7         | 0.722381195 | -0.469167757 | 0.000217545 | 0.006331 |
| TRIM35        | 0.694845082 | -0.525236736 | 0.000217656 | 0.006331 |
| SZT2          | 0.705253271 | -0.503786642 | 0.000220397 | 0.006398 |
| OTUD3         | 0.708566815 | -0.497024196 | 0.000220746 | 0.006398 |
| IQGAP3        | 0.71372209  | -0.48656567  | 0.000221453 | 0.006407 |
| SLCO4C1       | 0.187840832 | -2.412417393 | 0.000222512 | 0.006427 |
| NRG4          | 0.559525578 | -0.837724012 | 0.000223083 | 0.006432 |
| ZFYVE26       | 0.652737561 | -0.615425034 | 0.000225307 | 0.006484 |
| ZNF865        | 0.643990061 | -0.634889673 | 0.000225718 | 0.006485 |
| AHNAK2        | 0.719635499 | -0.47466174  | 0.000227118 | 0.006514 |
| GNG13         | 0.374274101 | -1.417832875 | 0.000228975 | 0.006555 |
| ZNF385C       | 2.057810301 | 1.041109993  | 0.000230887 | 0.006599 |
| BAIAP3        | 0.701015278 | -0.512482208 | 0.000232116 | 0.006622 |
| BEST2         | 4.208935687 | 2.073455465  | 0.000233781 | 0.006658 |
| SOX4          | 0.718765556 | -0.47640682  | 0.00023932  | 0.006795 |
| ARHGAP33      | 0.680027697 | -0.556334587 | 0.000239404 | 0.006795 |
| ANKRD50       | 0.700389758 | -0.513770109 | 0.000240215 | 0.006806 |
| GPATCH2L      | 0.72386962  | -0.466198226 | 0.000241239 | 0.006823 |
| RPL37         | 0.71910537  | -0.475724911 | 0.000242756 | 0.006854 |
| LINC00861     | 0.250243313 | -1.998596577 | 0.000243655 | 0.006868 |
| AC022532.1    | 0.349743742 | -1.515629851 | 0.000244203 | 0.006871 |
| KRT13         | 2.191120088 | 1.131668556  | 0.000250465 | 0.007035 |
| MDN1          | 0.72576052  | -0.462434515 | 0.000252486 | 0.00708  |
| AC132872.2    | 2.035237732 | 1.025197322  | 0.000253096 | 0.007085 |
| MICAL1        | 0.710215615 | -0.493671015 | 0.000254076 | 0.0071   |
| MEIS3         | 0.540604136 | -0.887355544 | 0.000256229 | 0.007148 |
| NYNRIN        | 3.500839091 | 1.807700753  | 0.000262891 | 0.007308 |
| NDNL2         | 1.476243295 | 0.561930507  | 0.0002635   | 0.007308 |
| ASIC3         | 0.545378414 | -0.874670494 | 0.00026368  | 0.007308 |
| RIF1          | 0.716784742 | -0.480388167 | 0.000263746 | 0.007308 |

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| TERT           | 0.557450907 | -0.843083337 | 0.000266131 | 0.007362 |
| ARHGAP30       | 3.10361268  | 1.633948526  | 0.000276701 | 0.007641 |
| B4GALNT3       | 0.66496227  | -0.58865561  | 0.000277247 | 0.007643 |
| KIAA1045       | 4.025899732 | 2.009311241  | 0.000280067 | 0.007708 |
| TSC22D3        | 1.543172918 | 0.62589973   | 0.000286618 | 0.007875 |
| CIT            | 0.717858419 | -0.478228762 | 0.000290657 | 0.007973 |
| AL591479.1     | 4.4041692   | 2.138869896  | 0.000293213 | 0.00803  |
| FRAS1          | 0.719843607 | -0.474244594 | 0.00029575  | 0.008085 |
| ANKRD37        | 1.475228036 | 0.560937979  | 0.000297758 | 0.008127 |
| EID3           | 2.575099014 | 1.364627906  | 0.000298812 | 0.008135 |
| CRY2           | 0.677233462 | -0.562274837 | 0.000299064 | 0.008135 |
| RPL18A         | 0.508190112 | -0.976559791 | 0.000303047 | 0.00823  |
| TAC4           | 0.145887286 | -2.777073933 | 0.000303686 | 0.008234 |
| ZNF107         | 0.64353655  | -0.635906006 | 0.000306584 | 0.008295 |
| AC004447.2     | 0.698804981 | -0.517038204 | 0.000307399 | 0.008295 |
| RAPGEFL1       | 0.654025381 | -0.61258147  | 0.000307449 | 0.008295 |
| CLDN4          | 1.388124435 | 0.473136901  | 0.00030871  | 0.008315 |
| PEAK1          | 0.716728292 | -0.480501791 | 0.000311783 | 0.008384 |
| KRTAP5-2       | 5.646565326 | 2.497373577  | 0.000315045 | 0.008458 |
| RP11-263K19.4  | 0.571815577 | -0.806378173 | 0.000316427 | 0.008481 |
| SAPCD1-AS1     | 0.614827136 | -0.701747254 | 0.000318447 | 0.008515 |
| ZXDC           | 0.683467104 | -0.549056193 | 0.000319228 | 0.008515 |
| PEAR1          | 0.664852042 | -0.58889478  | 0.000319625 | 0.008515 |
| BRWD3          | 0.702859987 | -0.508690769 | 0.000319796 | 0.008515 |
| LRP6           | 0.713504334 | -0.487005903 | 0.000321952 | 0.00855  |
| EGR1           | 1.393691102 | 0.478910838  | 0.000322353 | 0.00855  |
| ZNF516         | 0.689253434 | -0.536893545 | 0.000322658 | 0.00855  |
| IKBKB          | 0.707881876 | -0.498419457 | 0.000323888 | 0.008557 |
| CBS            | 5.837537963 | 2.545360027  | 0.000323965 | 0.008557 |
| MALAT1         | 0.72369758  | -0.466541148 | 0.000325507 | 0.00858  |
| GNB3           | 0.65059918  | -0.62015909  | 0.000325995 | 0.00858  |
| UNC5CL         | 0.509298976 | -0.973415278 | 0.000326416 | 0.00858  |
| MYSM1          | 0.715090313 | -0.483802636 | 0.000327727 | 0.008601 |
| MTMR3          | 0.708991742 | -0.496159271 | 0.000331101 | 0.008675 |
| LYPD3          | 1.805764253 | 0.852609558  | 0.000339457 | 0.00888  |
| TGM1           | 0.445793046 | -1.165553984 | 0.000340902 | 0.0089   |
| HSCB           | 1.546453869 | 0.628963798  | 0.000341314 | 0.0089   |
| HSF4           | 0.612911863 | -0.706248467 | 0.000344023 | 0.008957 |
| CTD-2517M22.14 | 0.344433341 | -1.537703292 | 0.000347664 | 0.009007 |
| RP11-649A18.4  | 0.3414851   | -1.550105464 | 0.00034783  | 0.009007 |
| RP11-244H3.1   | 0.346915665 | -1.527343108 | 0.000347926 | 0.009007 |
| MKI67          | 0.710886528 | -0.492308801 | 0.000348141 | 0.009007 |
| TMC4           | 0.682307331 | -0.551506377 | 0.000352117 | 0.009095 |
| HMG2           | 0.600349031 | -0.736126597 | 0.000357095 | 0.009209 |
| PRR14L         | 0.72804681  | -0.457896882 | 0.000357637 | 0.009209 |
| GPR19          | 2.236922957 | 1.161515569  | 0.000359378 | 0.009239 |
| RP11-164P12.3  | 0.330028679 | -1.599336698 | 0.000360807 | 0.009261 |
| SLC9A7         | 0.47282681  | -1.080616255 | 0.000367009 | 0.009406 |
| RFX7           | 0.697738804 | -0.519241025 | 0.000373374 | 0.009554 |
| ZDHHC11B       | 0.59039428  | -0.760249351 | 0.000374081 | 0.009557 |
| HIPK2          | 0.729752182 | -0.454521476 | 0.000379138 | 0.009671 |
| CCDC64B        | 0.670373857 | -0.576962206 | 0.000392792 | 0.010004 |
| NDUFA11        | 0.617080935 | -0.696468373 | 0.000394613 | 0.010034 |
| CHAC1          | 0.64808671  | -0.625741244 | 0.000400163 | 0.01016  |

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| ZNF692         | 0. 714902462 | -0. 484181675 | 0. 000401846 | 0. 010187 |
| ABCA2          | 0. 73089294  | -0. 452267996 | 0. 000407761 | 0. 010321 |
| SLC29A4        | 0. 690305532 | -0. 534693049 | 0. 000408748 | 0. 010329 |
| LEAP2          | 2. 164233462 | 1. 113856135  | 0. 000409332 | 0. 010329 |
| FHOD1          | 0. 715668959 | -0. 482635688 | 0. 000411711 | 0. 010373 |
| MYO15B         | 0. 659017736 | -0. 601610802 | 0. 000415967 | 0. 010464 |
| SLC29A2        | 0. 719049078 | -0. 475837851 | 0. 000420727 | 0. 010567 |
| MED13          | 0. 73631664  | -0. 441601789 | 0. 000425189 | 0. 010663 |
| BTK            | 4. 964718105 | 2. 311711804  | 0. 0004273   | 0. 010699 |
| LINC00523      | 3. 752513983 | 1. 907857448  | 0. 000431477 | 0. 010788 |
| C19orf71       | 0. 583941761 | -0. 776103606 | 0. 000434565 | 0. 010848 |
| C14orf159      | 0. 701929971 | -0. 510600989 | 0. 00043701  | 0. 010893 |
| CFP            | 0. 422843228 | -1. 241805222 | 0. 000439641 | 0. 010942 |
| MNT            | 0. 687454742 | -0. 540663357 | 0. 000440864 | 0. 010955 |
| UBALD2         | 1. 377042437 | 0. 46157302   | 0. 000448393 | 0. 011126 |
| ACSF2          | 0. 683950555 | -0. 548036064 | 0. 00044923  | 0. 011129 |
| TIAF1          | 0. 350924629 | -1. 51076689  | 0. 000454206 | 0. 011236 |
| RP11-57H14. 4  | 0. 60632826  | -0. 72182903  | 0. 000460748 | 0. 01138  |
| FAM193A        | 0. 658708665 | -0. 602287567 | 0. 000466447 | 0. 011504 |
| ZSWIM8         | 0. 715708823 | -0. 48255533  | 0. 000469502 | 0. 011562 |
| AZI1           | 0. 719748815 | -0. 474434586 | 0. 000472318 | 0. 011598 |
| USP31          | 0. 66357699  | -0. 591664235 | 0. 000472387 | 0. 011598 |
| CEP250         | 0. 72050756  | -0. 472914527 | 0. 000478163 | 0. 011722 |
| RP11-73M18. 10 | 0. 510301601 | -0. 970577928 | 0. 000490267 | 0. 012001 |
| KIF26A         | 0. 707873282 | -0. 498436971 | 0. 000500142 | 0. 01222  |
| C7orf43        | 0. 684624441 | -0. 546615297 | 0. 000500711 | 0. 01222  |
| LUZP1          | 0. 72516399  | -0. 463620809 | 0. 000504478 | 0. 012294 |
| BAI1           | 0. 609319815 | -0. 714728438 | 0. 000509145 | 0. 012362 |
| LPP            | 0. 722868448 | -0. 468194973 | 0. 000509413 | 0. 012362 |
| AKAP9          | 0. 711746521 | -0. 490564558 | 0. 000509534 | 0. 012362 |
| OGT            | 0. 738128156 | -0. 438056772 | 0. 000515859 | 0. 012497 |
| ZNF587B        | 0. 606233714 | -0. 72205401  | 0. 000528539 | 0. 012785 |
| RCOR3          | 0. 67582447  | -0. 565279507 | 0. 00052965  | 0. 012792 |
| CD274          | 2. 038637853 | 1. 027605516  | 0. 000530633 | 0. 012792 |
| CLSTN3         | 0. 717727453 | -0. 47849199  | 0. 000531168 | 0. 012792 |
| RALGAPA2       | 0. 693347535 | -0. 528349421 | 0. 000533162 | 0. 012821 |
| RP11-727A23. 5 | 1. 779246572 | 0. 831266456  | 0. 000535668 | 0. 012862 |
| ZNF526         | 0. 663717665 | -0. 591358422 | 0. 000538028 | 0. 0129   |
| ARRDC4         | 0. 680935157 | -0. 554410672 | 0. 000540934 | 0. 012937 |
| INHBC          | 3. 780805769 | 1. 918693736  | 0. 000541878 | 0. 012937 |
| CTA-228A9. 3   | 0. 433340267 | -1. 206427793 | 0. 000541927 | 0. 012937 |
| RP11-517C16. 2 | 0. 572684134 | -0. 804188459 | 0. 000548297 | 0. 01307  |
| RP11-166D19. 1 | 0. 71997408  | -0. 473983126 | 0. 000549294 | 0. 013074 |
| RAB3B          | 0. 729691405 | -0. 454641634 | 0. 000562699 | 0. 013374 |
| CDKN2C         | 1. 49326391  | 0. 578469161  | 0. 000565869 | 0. 01343  |
| NINL           | 0. 694991029 | -0. 524933739 | 0. 000568241 | 0. 013467 |
| ACACB          | 0. 64372591  | -0. 635481557 | 0. 000573398 | 0. 013569 |
| ARID5B         | 0. 717691796 | -0. 478563665 | 0. 000578994 | 0. 013682 |
| AGPAT4         | 0. 692122441 | -0. 530900811 | 0. 00058261  | 0. 013748 |
| WNK4           | 0. 619074016 | -0. 691816187 | 0. 000585763 | 0. 013802 |
| FAM160B2       | 0. 716552262 | -0. 480856164 | 0. 000587115 | 0. 013814 |
| TRIAP1         | 1. 387363494 | 0. 472345828  | 0. 000597353 | 0. 014035 |
| ZNF398         | 0. 696584488 | -0. 521629748 | 0. 000604235 | 0. 014176 |
| EPG5           | 0. 659725444 | -0. 600062348 | 0. 000610174 | 0. 014295 |

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|-----------------|--------------|---------------|--------------|-----------|
| HSPB1           | 1. 349945889 | 0. 43290158   | 0. 000612359 | 0. 014326 |
| CTD-2228K2. 7   | 0. 706829017 | -0. 500566828 | 0. 00061946  | 0. 014445 |
| PLEC            | 0. 705570299 | -0. 503138264 | 0. 000619678 | 0. 014445 |
| DIP2A           | 0. 724479401 | -0. 464983424 | 0. 000620124 | 0. 014445 |
| NAV1            | 0. 711408945 | -0. 491248981 | 0. 000626001 | 0. 014562 |
| FNBP4           | 0. 738425441 | -0. 437475835 | 0. 000630891 | 0. 014655 |
| RP11-420L9. 5   | 1. 895187223 | 0. 922340377  | 0. 000632376 | 0. 014668 |
| UQCRB           | 1. 404864178 | 0. 490430658  | 0. 000633469 | 0. 014673 |
| PSD3            | 0. 734260772 | -0. 44563557  | 0. 000634542 | 0. 014677 |
| SCAF8           | 0. 676658302 | -0. 563500607 | 0. 000637332 | 0. 014707 |
| RFPL3           | 2. 863342894 | 1. 517700448  | 0. 000637641 | 0. 014707 |
| CTD-2256P15. 4  | 1. 391214966 | 0. 476345357  | 0. 000641161 | 0. 014767 |
| TMEM151B        | 4. 83733554  | 2. 274212613  | 0. 000648916 | 0. 014915 |
| NDUFC1          | 1. 377585405 | 0. 462141763  | 0. 000649385 | 0. 014915 |
| GADD45G         | 2. 950638869 | 1. 561027359  | 0. 000655286 | 0. 015029 |
| AP5Z1           | 0. 686021425 | -0. 543674462 | 0. 000657711 | 0. 015061 |
| RP11-92G12. 3   | 3. 317318946 | 1. 730017728  | 0. 00065849  | 0. 015061 |
| SLC26A1         | 0. 523625139 | -0. 933393732 | 0. 000659689 | 0. 015067 |
| C21orf119       | 1. 562879421 | 0. 644206476  | 0. 000662184 | 0. 015103 |
| PRKAG2-AS1      | 2. 411545188 | 1. 269957844  | 0. 000667546 | 0. 015204 |
| RP11-390B4. 5   | 3. 128469182 | 1. 645456893  | 0. 000677778 | 0. 015394 |
| PPP4R1L         | 0. 593036621 | -0. 753806898 | 0. 000677785 | 0. 015394 |
| ASXL2           | 0. 720004745 | -0. 47392168  | 0. 000679575 | 0. 015414 |
| CTC-550B14. 7   | 0. 538711223 | -0. 892415973 | 0. 000687875 | 0. 01558  |
| DLGAP1          | 1. 894994438 | 0. 922193614  | 0. 000692975 | 0. 015655 |
| PRRC2B          | 0. 741732396 | -0. 431029314 | 0. 000693077 | 0. 015655 |
| TECPR1          | 0. 695245432 | -0. 524405735 | 0. 000695282 | 0. 015683 |
| LRP2BP          | 0. 661751801 | -0. 595637878 | 0. 000698287 | 0. 015729 |
| AC007551. 3     | 2. 567502986 | 1. 360365954  | 0. 000704315 | 0. 015843 |
| NLGN2           | 0. 737576032 | -0. 439136319 | 0. 000713386 | 0. 016025 |
| KLLN            | 2. 233367375 | 1. 159220585  | 0. 000727095 | 0. 016311 |
| SLC23A3         | 0. 610815919 | -0. 711190433 | 0. 000739056 | 0. 016556 |
| ZEB1-AS1        | 1. 673630464 | 0. 742981017  | 0. 000741754 | 0. 016577 |
| RP11-46C24. 7   | 1. 874356559 | 0. 906395423  | 0. 000741993 | 0. 016577 |
| CREBZF          | 0. 737744793 | -0. 438806262 | 0. 000746009 | 0. 016644 |
| NUTM1           | 0. 28225115  | -1. 824948638 | 0. 000747245 | 0. 016649 |
| MKL2            | 0. 717061451 | -0. 479831335 | 0. 000758812 | 0. 016866 |
| AP000758. 1     | 0. 456316796 | -1. 131892338 | 0. 000759035 | 0. 016866 |
| ZNF652          | 0. 709191104 | -0. 495753655 | 0. 000761523 | 0. 016893 |
| DENND5B         | 0. 730743034 | -0. 452563924 | 0. 000762326 | 0. 016893 |
| RP11-1035H13. 2 | 0. 584476277 | -0. 774783625 | 0. 000763509 | 0. 016896 |
| AC114765. 1     | 0. 213882727 | -2. 225108117 | 0. 000776558 | 0. 017154 |
| RP11-350N15. 4  | 0. 633707705 | -0. 658110539 | 0. 000777236 | 0. 017154 |
| LINC00475       | 2. 371828627 | 1. 245999774  | 0. 000780449 | 0. 017186 |
| RP11-67L2. 2    | 0. 627673146 | -0. 671914608 | 0. 000780784 | 0. 017186 |
| RP1-69M21. 2    | 6. 664542003 | 2. 736505735  | 0. 000788044 | 0. 017322 |
| PHACTR2         | 0. 686555089 | -0. 542552608 | 0. 000792898 | 0. 017406 |
| NPPC            | 4. 340271626 | 2. 117785333  | 0. 000796993 | 0. 017472 |
| KCNG3           | 2. 632491409 | 1. 396428823  | 0. 000799743 | 0. 017509 |
| RP11-893F2. 13  | 4. 377986736 | 2. 130267584  | 0. 000806849 | 0. 017641 |
| VPS13B          | 0. 726648782 | -0. 460669874 | 0. 000808571 | 0. 017655 |
| RP11-112L6. 3   | 4. 292557777 | 2. 101837553  | 0. 00081598  | 0. 017793 |
| MTAP            | 0. 74276035  | -0. 429031292 | 0. 000820104 | 0. 017836 |
| BFSP1           | 1. 40261688  | 0. 488120995  | 0. 000820118 | 0. 017836 |

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|----------------|-------------|--------------|-------------|----------|
| LARP1          | 0.744816622 | -0.425042825 | 0.00082428  | 0.017902 |
| BANP           | 1.494481288 | 0.579644834  | 0.000826581 | 0.017929 |
| MPP5           | 0.718557393 | -0.476824701 | 0.000830806 | 0.017996 |
| GPR83          | 2.5096172   | 1.327467322  | 0.000832638 | 0.017999 |
| COPZ2          | 5.186997201 | 2.374899591  | 0.000834218 | 0.017999 |
| ELAVL3         | 5.275812983 | 2.399393425  | 0.000834218 | 0.017999 |
| RNF103         | 1.453340051 | 0.539372303  | 0.000839042 | 0.018061 |
| TRIP11         | 0.69364179  | -0.527737276 | 0.000839309 | 0.018061 |
| B3GNT1         | 1.511571598 | 0.596049316  | 0.000844258 | 0.018144 |
| SH3RF1         | 0.718712824 | -0.476512667 | 0.000852368 | 0.018294 |
| MT-ATP6        | 0.48134845  | -1.054846452 | 0.000857456 | 0.018372 |
| EXOG           | 0.523884505 | -0.932679302 | 0.000858254 | 0.018372 |
| SERINC4        | 0.679572238 | -0.557301178 | 0.000869018 | 0.018578 |
| KRTCAP2        | 0.595638032 | -0.747492221 | 0.000873602 | 0.018652 |
| CPNE7          | 0.738393782 | -0.437537691 | 0.0008749   | 0.018655 |
| KDM5A          | 0.723502782 | -0.46692953  | 0.000876657 | 0.018669 |
| RP11-752G15.8  | 3.371077231 | 1.75320968   | 0.000879792 | 0.018711 |
| APBB3          | 0.683169452 | -0.549684629 | 0.00088147  | 0.018722 |
| RP11-393I2.4   | 2.974841438 | 1.572812773  | 0.00088942  | 0.018846 |
| AC132192.1     | 2.927813444 | 1.54982363   | 0.000889574 | 0.018846 |
| PDXDC2P        | 0.414622396 | -1.270130048 | 0.000898089 | 0.019001 |
| SIGLEC1        | 3.145311225 | 1.653202777  | 0.000910287 | 0.019219 |
| AKAP13         | 0.735617539 | -0.442972218 | 0.0009107   | 0.019219 |
| EBF4           | 0.636161682 | -0.652534618 | 0.00091477  | 0.01928  |
| RC3H1          | 0.685827458 | -0.544082428 | 0.000927164 | 0.019516 |
| LRRC48         | 0.559573106 | -0.83760147  | 0.000930781 | 0.019567 |
| PPP1R12B       | 0.684016987 | -0.547895941 | 0.00095903  | 0.020135 |
| KIAA1671       | 0.728303413 | -0.457388488 | 0.000969196 | 0.020322 |
| OTX1           | 0.704907062 | -0.504495035 | 0.00097661  | 0.020451 |
| RBM15B         | 1.355246472 | 0.438555251  | 0.000979679 | 0.020489 |
| FGFR1          | 0.746679422 | -0.421439122 | 0.000982094 | 0.020514 |
| OSTF1          | 1.607461022 | 0.684783755  | 0.000985176 | 0.020552 |
| DI03           | 2.01065045  | 1.007662292  | 0.000986963 | 0.020563 |
| RP11-566J3.2   | 4.641476174 | 2.214583713  | 0.000991278 | 0.020627 |
| RP11-384L8.1   | 2.242803804 | 1.165303422  | 0.001001499 | 0.020813 |
| LAMA5          | 0.714791943 | -0.484404723 | 0.001006467 | 0.02089  |
| STAT5B         | 0.624444578 | -0.679354562 | 0.001008923 | 0.020914 |
| PCNA           | 1.341511109 | 0.423859001  | 0.0010116   | 0.020943 |
| RP5-821D11.7   | 0.630932001 | -0.664443569 | 0.001013414 | 0.020954 |
| ANKRD31        | 3.709737978 | 1.891317292  | 0.001020831 | 0.021081 |
| CTD-2555016.4  | 0.410460732 | -1.284683885 | 0.001022724 | 0.021093 |
| RP11-806H10.4  | 3.737784196 | 1.902183276  | 0.001028648 | 0.021101 |
| PIGW           | 1.504329655 | 0.58912075   | 0.00102871  | 0.021101 |
| HSPD1          | 1.33824435  | 0.420341562  | 0.001029047 | 0.021101 |
| COL1A1         | 0.734311217 | -0.445536456 | 0.001029406 | 0.021101 |
| ATP11A         | 0.748089361 | -0.41871748  | 0.001030355 | 0.021101 |
| MC1R           | 0.613152258 | -0.705682727 | 0.001030815 | 0.021101 |
| RP11-260M2.1   | 0.357932823 | -1.482239247 | 0.001034592 | 0.021152 |
| RP11-1246C19.1 | 0.537279864 | -0.896254325 | 0.001044552 | 0.021329 |
| LINC01001      | 0.392117796 | -1.350640977 | 0.001047916 | 0.021371 |
| AC137932.6     | 1.958538879 | 0.969777768  | 0.001051653 | 0.02142  |
| WDR90          | 0.742518451 | -0.429501219 | 0.001057772 | 0.021506 |
| ANGPT2         | 1.703591585 | 0.768579508  | 0.001058507 | 0.021506 |
| AMT            | 0.596153876 | -0.746243336 | 0.001074537 | 0.021805 |



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|---------------|-------------|--------------|-------------|----------|
| C9orf163      | 3.518505322 | 1.814962695  | 0.001101569 | 0.022326 |
| GRIPAP1       | 0.73488318  | -0.444413163 | 0.001107462 | 0.022418 |
| C20orf194     | 0.669157386 | -0.579582521 | 0.001109751 | 0.022422 |
| ARHGEF17      | 0.708778956 | -0.496592325 | 0.001110413 | 0.022422 |
| 7SK           | 0.478894365 | -1.062220635 | 0.001115799 | 0.022492 |
| VAMP5         | 3.541576936 | 1.824391883  | 0.001116633 | 0.022492 |
| AHDC1         | 0.709936037 | -0.494239047 | 0.001118306 | 0.022498 |
| BRWD1         | 0.742010341 | -0.430488801 | 0.001120636 | 0.022517 |
| CHDH          | 0.712157797 | -0.489731151 | 0.001125739 | 0.022592 |
| CCNB1IP1      | 1.420623966 | 0.506524729  | 0.001133735 | 0.022721 |
| ANKS3         | 0.686585867 | -0.542487935 | 0.001135877 | 0.022721 |
| PHACTR1       | 0.333847955 | -1.582736894 | 0.001136436 | 0.022721 |
| CUEDC1        | 0.748757985 | -0.417428611 | 0.00113773  | 0.022721 |
| CCDC146       | 0.579068589 | -0.788193854 | 0.001147274 | 0.022884 |
| DLX2          | 1.955956995 | 0.967874651  | 0.001161375 | 0.023137 |
| AGER          | 0.62748069  | -0.672357032 | 0.001163012 | 0.023142 |
| GIGYF2        | 0.746012199 | -0.422728874 | 0.001168727 | 0.023227 |
| BATF2         | 1.979195437 | 0.984914079  | 0.001170674 | 0.023238 |
| ZNF780A       | 0.638089929 | -0.64816833  | 0.00117835  | 0.023357 |
| NUDT3         | 0.733229224 | -0.447663807 | 0.001179553 | 0.023357 |
| AOC3          | 0.622363767 | -0.684170023 | 0.001187735 | 0.023491 |
| RP11-541N10.3 | 0.541247774 | -0.885638909 | 0.001192508 | 0.023542 |
| LRRC25        | 4.072622216 | 2.025957993  | 0.001194452 | 0.023542 |
| SLC15A2       | 0.426811845 | -1.228327879 | 0.001195299 | 0.023542 |
| GAK           | 0.74629514  | -0.422181805 | 0.001196086 | 0.023542 |
| RP5-1157M23.2 | 3.373267139 | 1.754146574  | 0.001198781 | 0.023567 |
| MANF          | 1.326728437 | 0.407873101  | 0.001200909 | 0.02358  |
| TAF7          | 1.337378438 | 0.419407763  | 0.001207078 | 0.023673 |
| RP11-634H22.1 | 2.97387126  | 1.572342194  | 0.001209548 | 0.023693 |
| CRYGS         | 0.53664248  | -0.897966835 | 0.001221727 | 0.023882 |
| CHRNE         | 0.602833976 | -0.730167365 | 0.001222113 | 0.023882 |
| LINC01003     | 2.49630262  | 1.319792839  | 0.001224247 | 0.023891 |
| LINC00173     | 0.674471356 | -0.56817092  | 0.001225764 | 0.023891 |
| PSME2         | 0.669402521 | -0.57905411  | 0.00122693  | 0.023891 |
| BCL3          | 1.430503681 | 0.51652321   | 0.001233635 | 0.023979 |
| KIRREL        | 0.736314023 | -0.441606917 | 0.00123437  | 0.023979 |
| PLEKHG5       | 0.740790369 | -0.432862753 | 0.001238224 | 0.024025 |
| TOMM40        | 0.556425792 | -0.8457388   | 0.001247132 | 0.024169 |
| CDK18         | 0.704979399 | -0.504346995 | 0.001250886 | 0.024213 |
| WTIP          | 0.622373622 | -0.684147178 | 0.001257175 | 0.024306 |
| ARID1A        | 0.745633244 | -0.42346191  | 0.001262633 | 0.024383 |
| SACS          | 0.754479314 | -0.406446748 | 0.001265777 | 0.024415 |
| PLIN4         | 0.624441637 | -0.679361358 | 0.001276052 | 0.024584 |
| NPR2          | 0.640618715 | -0.64246215  | 0.001281333 | 0.024657 |
| CTD-2647L4.4  | 0.380898003 | -1.392523369 | 0.00128991  | 0.024793 |
| SNHG12        | 0.73962958  | -0.435125172 | 0.001303295 | 0.025018 |
| RHPN1         | 0.7443699   | -0.425908376 | 0.001304672 | 0.025018 |
| ATP6V0A1      | 0.740202932 | -0.434007245 | 0.001308848 | 0.025069 |
| RP11-602.4    | 0.606064356 | -0.722457099 | 0.001317381 | 0.025203 |
| LPHN1         | 0.746609803 | -0.421573643 | 0.001329313 | 0.025401 |
| RP11-440L14.4 | 0.279451438 | -1.839330498 | 0.00133357  | 0.025425 |
| POLM          | 0.693403606 | -0.528232756 | 0.001333685 | 0.025425 |
| ZC3H12A       | 1.545268735 | 0.627857756  | 0.001338124 | 0.02548  |
| MGA           | 0.737802755 | -0.438692919 | 0.001341865 | 0.025522 |

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|---------------|-------------|--------------|-------------|----------|
| KAT6A         | 0.753510978 | -0.408299563 | 0.001343629 | 0.025526 |
| WDR91         | 0.706034911 | -0.502188574 | 0.001347406 | 0.025541 |
| AP006216.11   | 0.284717381 | -1.812397528 | 0.001348296 | 0.025541 |
| VPS13A        | 0.759122787 | -0.397594837 | 0.001350678 | 0.025541 |
| ATXN7L2       | 0.638891154 | -0.646357932 | 0.001350684 | 0.025541 |
| CTB-58E17.1   | 1.618471885 | 0.694632304  | 0.001361734 | 0.02571  |
| KIFC2         | 0.748846241 | -0.417258572 | 0.001362767 | 0.02571  |
| DCAF4         | 0.654190088 | -0.612218193 | 0.001369071 | 0.0258   |
| DOCK3         | 0.687764225 | -0.540014021 | 0.00137835  | 0.025945 |
| PCNX          | 0.750127144 | -0.414792948 | 0.001389214 | 0.026119 |
| JOSD1         | 1.336111902 | 0.418040842  | 0.001392526 | 0.026151 |
| TOP3B         | 0.724387068 | -0.465167304 | 0.001395742 | 0.026182 |
| PRR12         | 0.729504268 | -0.455011676 | 0.001407092 | 0.026364 |
| GP1BA         | 0.557231624 | -0.843650959 | 0.001414757 | 0.026449 |
| RP1-68D18.2   | 0.240443999 | -2.056227174 | 0.001414829 | 0.026449 |
| POLR2K        | 1.359841198 | 0.443438184  | 0.001417756 | 0.026455 |
| CUL9          | 0.733495062 | -0.447140841 | 0.001419215 | 0.026455 |
| RP11-47I22.2  | 5.051523157 | 2.336718461  | 0.001421492 | 0.026455 |
| CA2           | 1.357744393 | 0.441211905  | 0.001421614 | 0.026455 |
| PAXBP1        | 0.756694293 | -0.402217531 | 0.001426901 | 0.026495 |
| MRPL18        | 1.329655088 | 0.41105206   | 0.001426981 | 0.026495 |
| C12orf57      | 1.335306528 | 0.41717096   | 0.001429882 | 0.026518 |
| SPEF1         | 2.373406226 | 1.24695905   | 0.001436619 | 0.026569 |
| RP11-221N13.4 | 2.43789177  | 1.285634079  | 0.001436905 | 0.026569 |
| RP11-809C9.2  | 0.248848407 | -2.006660943 | 0.001437486 | 0.026569 |
| TRIO          | 0.750308096 | -0.41444497  | 0.001449442 | 0.02676  |
| CD14          | 3.65118399  | 1.868364371  | 0.001463369 | 0.026987 |
| SIK2          | 0.728926545 | -0.456154655 | 0.001465596 | 0.026997 |
| RMI2          | 1.469345633 | 0.5551738    | 0.001469182 | 0.027033 |
| SERPINF2      | 3.638782345 | 1.863455759  | 0.001474554 | 0.027101 |
| NDUFA13       | 0.533749157 | -0.905766208 | 0.001481968 | 0.027207 |
| RP1-59D14.5   | 0.699235097 | -0.516150495 | 0.001486234 | 0.027255 |
| SLC24A2       | 2.82133812  | 1.496379574  | 0.00150879  | 0.027638 |
| VWDE          | 0.699384102 | -0.515843093 | 0.001524089 | 0.027858 |
| TIAM1         | 0.743370319 | -0.427847009 | 0.001524211 | 0.027858 |
| FGD2          | 4.475996972 | 2.16220906   | 0.001532715 | 0.027982 |
| POLR2J3       | 0.322300729 | -1.633520642 | 0.001535222 | 0.027996 |
| RP11-255G12.2 | 0.331177638 | -1.594322832 | 0.001541413 | 0.028078 |
| PIM1          | 1.411794324 | 0.497529926  | 0.001550594 | 0.028214 |
| CLTCL1        | 0.68946422  | -0.53645241  | 0.001555229 | 0.028242 |
| ACVR1B        | 0.728032824 | -0.457924597 | 0.001555609 | 0.028242 |
| PHRF1         | 0.748766068 | -0.417413038 | 0.001560111 | 0.028293 |
| CEP350        | 0.739137689 | -0.436084955 | 0.00157277  | 0.028459 |
| FLCN          | 0.698125448 | -0.518441794 | 0.001572778 | 0.028459 |
| ZNF618        | 0.721430699 | -0.471067279 | 0.00159091  | 0.028722 |
| SBSN          | 2.254263528 | 1.17265618   | 0.001592889 | 0.028722 |
| MYCBP2        | 0.752177955 | -0.410854071 | 0.001593365 | 0.028722 |
| ULBP1         | 1.499529593 | 0.584509993  | 0.001596333 | 0.028722 |
| TTC32         | 1.806905804 | 0.853521299  | 0.00159773  | 0.028722 |
| ZBTB34        | 0.697008939 | -0.520750936 | 0.001597796 | 0.028722 |
| FCN3          | 3.300061685 | 1.722492992  | 0.001613061 | 0.028964 |
| FAT4          | 0.677963276 | -0.560720967 | 0.001627595 | 0.029193 |
| TRIM69        | 1.436723032 | 0.522781969  | 0.001631574 | 0.029233 |
| CLMN          | 0.736398313 | -0.441441774 | 0.00164246  | 0.029396 |

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|------------------|--------------|---------------|--------------|-----------|
| ZNF34            | 1. 644537676 | 0. 71768206   | 0. 001658196 | 0. 029645 |
| LMBR1L           | 0. 726522543 | -0. 460920532 | 0. 001661328 | 0. 029668 |
| SRGAP1           | 0. 692117878 | -0. 530910323 | 0. 001668441 | 0. 029763 |
| PCLO             | 0. 671311625 | -0. 57494547  | 0. 001674479 | 0. 029838 |
| C2               | 3. 127112382 | 1. 644831068  | 0. 001679808 | 0. 029856 |
| MRPL38           | 0. 567054462 | -0. 818440791 | 0. 001680224 | 0. 029856 |
| XXbac-BPG299F13. | 3. 012739813 | 1. 591076084  | 0. 00168097  | 0. 029856 |
| RP11-46309. 9    | 2. 37634183  | 1. 248742379  | 0. 001687093 | 0. 029917 |
| KDM4D            | 2. 032540783 | 1. 0232843    | 0. 001688886 | 0. 029917 |
| PRRC2C           | 0. 758914907 | -0. 397989962 | 0. 001690042 | 0. 029917 |
| HHATL            | 3. 080533763 | 1. 623180348  | 0. 001691701 | 0. 029917 |
| CCDC121          | 2. 06082313  | 1. 043220691  | 0. 001697752 | 0. 029992 |
| ZNF425           | 1. 663268082 | 0. 734020718  | 0. 001718307 | 0. 030322 |
| USP35            | 0. 625131543 | -0. 677768294 | 0. 001728533 | 0. 03047  |
| PODXL            | 0. 747798276 | -0. 419278949 | 0. 001730413 | 0. 03047  |
| HOXB3            | 0. 727074605 | -0. 459824688 | 0. 001733288 | 0. 030488 |
| NBEAL1           | 0. 647502483 | -0. 627042369 | 0. 001740103 | 0. 030575 |
| CTSK             | 0. 593102584 | -0. 753646437 | 0. 001744714 | 0. 030623 |
| BCOR             | 0. 738765962 | -0. 436810698 | 0. 001754214 | 0. 030757 |
| GAS8             | 0. 714867189 | -0. 484252858 | 0. 001756652 | 0. 030765 |
| YBX1             | 1. 314073181 | 0. 394045622  | 0. 001758426 | 0. 030765 |
| STK36            | 0. 728383982 | -0. 457228898 | 0. 001761678 | 0. 030789 |
| FAM174A          | 1. 668352203 | 0. 738423886  | 0. 001777276 | 0. 030951 |
| LINC00452        | 4. 016075119 | 2. 005786255  | 0. 001778067 | 0. 030951 |
| MYO1A            | 4. 016075119 | 2. 005786255  | 0. 001778067 | 0. 030951 |
| SLC16A8          | 0. 521509922 | -0. 939233394 | 0. 001778502 | 0. 030951 |
| PRPF40B          | 0. 704059214 | -0. 506231325 | 0. 001783753 | 0. 031009 |
| ARHGAP8          | 0. 59216804  | -0. 755921466 | 0. 001786341 | 0. 031021 |
| ZIC5             | 1. 453533967 | 0. 539564786  | 0. 00179036  | 0. 031045 |
| AC084082. 3      | 2. 631679638 | 1. 395983876  | 0. 001793371 | 0. 031045 |
| IGF2BP1          | 2. 645209473 | 1. 403381973  | 0. 001793373 | 0. 031045 |
| IL11             | 1. 759057768 | 0. 814802862  | 0. 001799084 | 0. 031096 |
| CPNE8            | 1. 468735735 | 0. 55457484   | 0. 001800124 | 0. 031096 |
| CHTF18           | 0. 753326216 | -0. 408653358 | 0. 001830798 | 0. 031592 |
| SNHG10           | 1. 533537424 | 0. 616863374  | 0. 001840892 | 0. 031719 |
| MXD1             | 1. 58753142  | 0. 666785145  | 0. 001841983 | 0. 031719 |
| ZBTB43           | 0. 723079709 | -0. 467773403 | 0. 001853986 | 0. 031885 |
| SLC27A1          | 0. 732052837 | -0. 449980314 | 0. 001855543 | 0. 031885 |
| ADAT2            | 0. 710525434 | -0. 493041803 | 0. 001867149 | 0. 032051 |
| CECR2            | 0. 667878415 | -0. 582342606 | 0. 001883788 | 0. 032298 |
| IFITM10          | 2. 256702036 | 1. 174215944  | 0. 001885514 | 0. 032298 |
| DCUN1D2          | 0. 708254274 | -0. 497660693 | 0. 001887796 | 0. 032304 |
| EGFL8            | 0. 360656923 | -1. 471300979 | 0. 001891558 | 0. 032334 |
| BAI2             | 0. 72580765  | -0. 462340833 | 0. 00190229  | 0. 032467 |
| ABCG4            | 0. 646729263 | -0. 628766205 | 0. 001903302 | 0. 032467 |
| KIAA0101         | 1. 35590691  | 0. 439258133  | 0. 001908149 | 0. 032516 |
| SPATC1           | 0. 399587346 | -1. 323417197 | 0. 001917262 | 0. 032637 |
| TNK2             | 0. 744794133 | -0. 425086387 | 0. 001924509 | 0. 032705 |
| LYRM9            | 0. 525824628 | -0. 927346379 | 0. 001925222 | 0. 032705 |
| ATP2C2           | 0. 699231054 | -0. 516158837 | 0. 001936394 | 0. 032861 |
| DNAJC27          | 0. 629982637 | -0. 666616029 | 0. 001943146 | 0. 032888 |
| CITED2           | 1. 362606179 | 0. 446368654  | 0. 001943689 | 0. 032888 |
| CBLC             | 0. 726121584 | -0. 461716957 | 0. 001944033 | 0. 032888 |
| MAN1A2           | 0. 745680776 | -0. 423369946 | 0. 001951543 | 0. 032981 |

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|------------------|-------------|--------------|-------------|----------|
| MLLT4            | 0.756820062 | -0.401977763 | 0.001966458 | 0.033199 |
| PIGG             | 0.743540302 | -0.427517153 | 0.001974311 | 0.033297 |
| JHDM1D           | 0.706898959 | -0.500424077 | 0.001982337 | 0.033365 |
| LINC00565        | 2.695291573 | 1.43044135   | 0.001982441 | 0.033365 |
| KIAA2026         | 0.688578826 | -0.538306276 | 0.00199366  | 0.03352  |
| NCOR2            | 0.758042106 | -0.399650108 | 0.00200086  | 0.033574 |
| C6orf163         | 0.413521545 | -1.273965598 | 0.002001005 | 0.033574 |
| SLC38A7          | 0.672579964 | -0.572222292 | 0.002003852 | 0.033588 |
| AC025335.1       | 0.349605751 | -1.516199179 | 0.002009492 | 0.033648 |
| CTC-428G20.3     | 0.394700919 | -1.341168215 | 0.002028381 | 0.033929 |
| SCN8A            | 0.686261814 | -0.543169014 | 0.002030977 | 0.033938 |
| AC005042.4       | 0.338050987 | -1.564687235 | 0.002048295 | 0.034176 |
| DENND4A          | 0.666089582 | -0.586211877 | 0.002051042 | 0.034176 |
| PRKCA            | 0.736834781 | -0.440586932 | 0.002051456 | 0.034176 |
| DMAP1            | 0.730365756 | -0.453308971 | 0.002077136 | 0.034507 |
| RP11-800A3.7     | 0.329189784 | -1.603008532 | 0.002077288 | 0.034507 |
| URB1             | 0.757407815 | -0.400857788 | 0.002077644 | 0.034507 |
| SLC26A4          | 3.479493545 | 1.798877331  | 0.002099415 | 0.034833 |
| ZBED5            | 0.726780255 | -0.460408869 | 0.002102125 | 0.034843 |
| TAT              | 3.449957127 | 1.786578434  | 0.002104556 | 0.034848 |
| PHF8             | 0.733493388 | -0.447144133 | 0.002115374 | 0.034984 |
| IDI1             | 1.343538752 | 0.426037934  | 0.002117062 | 0.034984 |
| SUMO2            | 1.315312781 | 0.395405913  | 0.002119946 | 0.034996 |
| GRIN2B           | 0.5316465   | -0.911460802 | 0.002122933 | 0.03501  |
| SPATA20          | 0.747635157 | -0.419593683 | 0.002125748 | 0.035021 |
| ZMYM2            | 0.738158326 | -0.437997804 | 0.002147419 | 0.035343 |
| ENTPD4           | 0.761837917 | -0.392444001 | 0.002157936 | 0.03548  |
| RPL21            | 0.65905066  | -0.601538727 | 0.002176379 | 0.035748 |
| B4GALNT4         | 0.73712089  | -0.440026849 | 0.002192268 | 0.035973 |
| CHCHD4           | 1.492400391 | 0.577634644  | 0.00219862  | 0.035994 |
| H6PD             | 0.741529669 | -0.431423678 | 0.002198729 | 0.035994 |
| SMN2             | 1.474752117 | 0.56047248   | 0.002200174 | 0.035994 |
| METTL22          | 0.678636148 | -0.559289817 | 0.002212276 | 0.036156 |
| TFAP4            | 1.41637691  | 0.50220523   | 0.002217808 | 0.03621  |
| ESAM             | 1.514103799 | 0.598464112  | 0.002224309 | 0.03628  |
| DGKH             | 0.718170451 | -0.477601801 | 0.002229171 | 0.036323 |
| CBFA2T2          | 0.700820798 | -0.512882505 | 0.002253647 | 0.036686 |
| VDAC1            | 1.307519512 | 0.386832476  | 0.002258296 | 0.036708 |
| CASKIN2          | 0.730674763 | -0.452698717 | 0.002259528 | 0.036708 |
| RELL2            | 0.722419375 | -0.46909151  | 0.002268178 | 0.036812 |
| FRAT2            | 1.79073259  | 0.840549916  | 0.002275666 | 0.036897 |
| CTD-2651B20.3    | 0.409253968 | -1.28893169  | 0.002279307 | 0.03692  |
| SFT2D2           | 0.749846234 | -0.415333313 | 0.002284916 | 0.036974 |
| ZDHHC8           | 0.731143573 | -0.451773362 | 0.002294709 | 0.037096 |
| SLC9A8           | 0.703429795 | -0.50752165  | 0.002299412 | 0.037098 |
| ECH1             | 1.43683157  | 0.522890954  | 0.002299879 | 0.037098 |
| LINC00894        | 0.549830279 | -0.862941736 | 0.002301615 | 0.037098 |
| ABHD17A          | 0.650415086 | -0.620567375 | 0.002305236 | 0.03712  |
| SAPCD1           | 0.500778158 | -0.997756456 | 0.002310397 | 0.037166 |
| RP11-532M24.1    | 2.126683352 | 1.088605242  | 0.002318442 | 0.037259 |
| XXbac-BPG181B23. | 2.632784721 | 1.396589559  | 0.002329734 | 0.037349 |
| AC062017.1       | 2.590927561 | 1.37346868   | 0.002329934 | 0.037349 |
| TSPAN11          | 0.28079498  | -1.83241095  | 0.002332322 | 0.037349 |
| CTD-2165H16.4    | 4.264947523 | 2.09252799   | 0.002333182 | 0.037349 |

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| RAD51C          | 1. 323509105 | 0. 40436812    | 0. 00234155  | 0. 037447 |
| HOXB9           | 1. 310149504 | 0. 389731451   | 0. 002344529 | 0. 037458 |
| ZNF629          | 0. 735353677 | -0. 443489796  | 0. 00235196  | 0. 03754  |
| RP11-894P9. 1   | 0. 577023485 | -0. 793298057  | 0. 002355161 | 0. 037554 |
| MYH10           | 0. 762540125 | -0. 39111484   | 0. 002381875 | 0. 037943 |
| DNAH17          | 0. 690421885 | -0. 5344449898 | 0. 00239275  | 0. 038079 |
| ARHGAP35        | 0. 760293125 | -0. 395372349  | 0. 002397006 | 0. 038096 |
| BIRC6           | 0. 758477818 | -0. 398821106  | 0. 002398479 | 0. 038096 |
| PACS2           | 0. 755626813 | -0. 4042542    | 0. 002405045 | 0. 038141 |
| KRT15           | 1. 315544288 | 0. 395659818   | 0. 002405926 | 0. 038141 |
| VPS13C          | 0. 733899415 | -0. 446345747  | 0. 00242868  | 0. 038428 |
| MYO9B           | 0. 760607695 | -0. 39477556   | 0. 002428742 | 0. 038428 |
| HSPA2           | 1. 665397033 | 0. 735866159   | 0. 002440781 | 0. 038581 |
| RP11-70L8. 4    | 0. 679888732 | -0. 556629436  | 0. 002445963 | 0. 038626 |
| AC084219. 3     | 0. 47390787  | -1. 077321476  | 0. 002456839 | 0. 03876  |
| RP11-649A18. 12 | 1. 449012984 | 0. 535070522   | 0. 002481262 | 0. 039108 |
| ARVCF           | 0. 749652798 | -0. 415705529  | 0. 002497208 | 0. 039321 |
| PTPRJ           | 0. 724421025 | -0. 465099676  | 0. 002504151 | 0. 039393 |
| DDX47           | 0. 421588848 | -1. 246091389  | 0. 00251405  | 0. 03951  |
| FRYL            | 0. 755625168 | -0. 40425734   | 0. 002516411 | 0. 03951  |
| PPID            | 1. 30911431  | 0. 388591077   | 0. 002523821 | 0. 03954  |
| SAMD4A          | 0. 743571166 | -0. 427457267  | 0. 002524627 | 0. 03954  |
| C17orf62        | 0. 759135445 | -0. 39757078   | 0. 002528098 | 0. 03954  |
| RP11-45506. 2   | 0. 578034069 | -0. 790773567  | 0. 002528725 | 0. 03954  |
| MAP1B           | 0. 727743736 | -0. 458497578  | 0. 002530433 | 0. 03954  |
| PROCA1          | 2. 102127395 | 1. 071850103   | 0. 002535074 | 0. 039545 |
| ZCCHC14         | 0. 757560574 | -0. 400566844  | 0. 002535558 | 0. 039545 |
| MINK1           | 0. 763762431 | -0. 388804139  | 0. 002544065 | 0. 03964  |
| CDKN1C          | 1. 399913594 | 0. 485337783   | 0. 002554676 | 0. 039767 |
| MYO5A           | 0. 745560747 | -0. 42360219   | 0. 002568919 | 0. 039951 |
| MPP3            | 0. 704686794 | -0. 504945916  | 0. 002578342 | 0. 04006  |
| OTUD7B          | 0. 740435135 | -0. 433554739  | 0. 002581889 | 0. 040077 |
| CDK5R1          | 1. 462790961 | 0. 548723617   | 0. 002587196 | 0. 040117 |
| CDK2AP2         | 1. 333884618 | 0. 415633878   | 0. 002589406 | 0. 040117 |
| ITGA7           | 0. 715699454 | -0. 482574215  | 0. 002596827 | 0. 040194 |
| CTD-2292P10. 4  | 1. 705568818 | 0. 770252967   | 0. 002602286 | 0. 040241 |
| CACNA1H         | 0. 75152115  | -0. 412114388  | 0. 002611041 | 0. 040338 |
| STYXL1          | 1. 378490228 | 0. 46308904    | 0. 002633738 | 0. 04065  |
| DNAJB9          | 1. 440256351 | 0. 526325619   | 0. 002640191 | 0. 040707 |
| ZNF518B         | 0. 756581243 | -0. 402433085  | 0. 002642678 | 0. 040707 |
| FLJ20306        | 1. 49924841  | 0. 584239443   | 0. 002647352 | 0. 040707 |
| RP11-844P9. 2   | 0. 535001569 | -0. 902384971  | 0. 002649244 | 0. 040707 |
| RP11-118K6. 3   | 3. 689899137 | 1. 883581381   | 0. 002652668 | 0. 040707 |
| CC2D1B          | 0. 740854092 | -0. 432738657  | 0. 002653793 | 0. 040707 |
| EVPL            | 0. 75528589  | -0. 404905259  | 0. 002654825 | 0. 040707 |
| IRS2            | 1. 391364006 | 0. 476499905   | 0. 002658251 | 0. 040722 |
| NKX3-1          | 1. 403329599 | 0. 488853893   | 0. 002667237 | 0. 040821 |
| RAET1L          | 2. 342476805 | 1. 228034763   | 0. 00269115  | 0. 041149 |
| USE1            | 1. 488719649 | 0. 574072095   | 0. 002710103 | 0. 0414   |
| FAM219B         | 0. 746845572 | -0. 421118132  | 0. 002714924 | 0. 041435 |
| DYNC2H1         | 0. 683665279 | -0. 548637938  | 0. 00272894  | 0. 041597 |
| TMED6           | 0. 34676185  | -1. 527982912  | 0. 002731883 | 0. 041597 |
| C1orf132        | 0. 319444837 | -1. 646361272  | 0. 00273397  | 0. 041597 |
| HERC1           | 0. 749923029 | -0. 415185567  | 0. 002739563 | 0. 041597 |

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|---------------|-------------|--------------|-------------|----------|
| BRAF          | 0.714012867 | -0.485978022 | 0.002739763 | 0.041597 |
| TICAM1        | 1.373891731 | 0.458268318  | 0.002740779 | 0.041597 |
| RP11-304L19.5 | 1.365589153 | 0.449523504  | 0.002754479 | 0.041766 |
| C19orf55      | 0.713001128 | -0.488023736 | 0.002758662 | 0.041791 |
| RP1-39G22.7   | 1.760441639 | 0.815937401  | 0.002770321 | 0.041893 |
| GDF9          | 1.346155966 | 0.428845571  | 0.002770523 | 0.041893 |
| STAT6         | 0.762141326 | -0.391869549 | 0.00279157  | 0.042131 |
| PLAU          | 1.326659894 | 0.407798565  | 0.002793421 | 0.042131 |
| PLEKHG3       | 0.747415294 | -0.42001801  | 0.002793974 | 0.042131 |
| FGFR10P       | 0.670092933 | -0.577566903 | 0.002808995 | 0.042318 |
| ASB1          | 0.759299114 | -0.397259771 | 0.002816336 | 0.042363 |
| SMCR8         | 0.68455346  | -0.546764883 | 0.002817116 | 0.042363 |
| PLAGL2        | 0.726498746 | -0.460967787 | 0.002820217 | 0.042371 |
| CTC-251D13.1  | 0.331526751 | -1.592802808 | 0.002829606 | 0.042473 |
| RP11-362A9.3  | 0.336662703 | -1.570624193 | 0.002833352 | 0.04249  |
| WIPF2         | 0.756772984 | -0.402067508 | 0.002843784 | 0.042607 |
| HEY1          | 2.760258074 | 1.46480316   | 0.0028618   | 0.042817 |
| ZNF33A        | 0.71118955  | -0.491693969 | 0.002863    | 0.042817 |
| ARHGEF26      | 0.703101369 | -0.508195391 | 0.002871414 | 0.042843 |
| ADARB1        | 0.739860198 | -0.434675407 | 0.00287244  | 0.042843 |
| RPS13         | 0.698218007 | -0.518250531 | 0.002874224 | 0.042843 |
| FAT1          | 0.696611745 | -0.521573297 | 0.002875232 | 0.042843 |
| CHRAC1        | 1.338245754 | 0.420343076  | 0.002890359 | 0.042993 |
| AL590822.2    | 0.552365939 | -0.856303735 | 0.002890559 | 0.042993 |
| MAGI1         | 0.754957425 | -0.405532808 | 0.002897215 | 0.043053 |
| CROCC         | 0.671594369 | -0.57433796  | 0.002903226 | 0.043104 |
| RP11-493K19.3 | 0.689777009 | -0.535798053 | 0.002925635 | 0.043368 |
| MSLN          | 0.72748392  | -0.459012736 | 0.002926355 | 0.043368 |
| POLQ          | 0.734706805 | -0.444759458 | 0.002937072 | 0.043488 |
| KLHL11        | 0.612247346 | -0.70781348  | 0.002942648 | 0.043531 |
| CXCR4         | 1.773917454 | 0.826938878  | 0.002949773 | 0.043597 |
| GBA2          | 0.76278414  | -0.390653248 | 0.002954389 | 0.043606 |
| AC004893.11   | 0.675203592 | -0.566605516 | 0.002955699 | 0.043606 |
| TMX1          | 1.358940404 | 0.442482189  | 0.002960393 | 0.043636 |
| AC147651.3    | 2.831735039 | 1.501686281  | 0.002967659 | 0.043704 |
| RBM4          | 0.521827441 | -0.938355283 | 0.002985533 | 0.043927 |
| MAPRE1        | 1.302811681 | 0.38162856   | 0.002996621 | 0.044012 |
| RP11-296I10.3 | 0.736792078 | -0.440670546 | 0.002996654 | 0.044012 |
| TARBP1        | 0.720464506 | -0.473000737 | 0.003000073 | 0.044018 |
| TTC14         | 0.733806782 | -0.446527857 | 0.00300242  | 0.044018 |
| MTR           | 0.748373689 | -0.418169258 | 0.003006301 | 0.044035 |
| TET3          | 0.745365024 | -0.423980973 | 0.00301374  | 0.044047 |
| WNK2          | 0.736173285 | -0.441882699 | 0.003015369 | 0.044047 |
| STRA6         | 0.517222216 | -0.951143851 | 0.003016583 | 0.044047 |
| NDUFA6-AS1    | 0.50753883  | -0.978409894 | 0.003017906 | 0.044047 |
| TSC1          | 0.752795865 | -0.409669391 | 0.003031211 | 0.044202 |
| SLC23A2       | 0.741884284 | -0.430733917 | 0.003038557 | 0.044245 |
| PRDM1         | 2.244388342 | 1.166322324  | 0.003039526 | 0.044245 |
| RP11-1114A5.4 | 0.474498244 | -1.075525348 | 0.003057984 | 0.044472 |
| EPHA10        | 0.697795648 | -0.519123495 | 0.003060571 | 0.044472 |
| HCST          | 2.916801835 | 1.544387374  | 0.003080314 | 0.044719 |
| TACSTD2       | 1.331812886 | 0.413391404  | 0.003093881 | 0.044876 |
| CDC42BPG      | 0.756079241 | -0.403390651 | 0.003134641 | 0.045417 |
| SELPLG        | 2.028210158 | 1.020207148  | 0.003136672 | 0.045417 |

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| SRCIN1        | 0.718763526 | -0.476410895 | 0.003145435 | 0.045503 |
| CHD5          | 0.729801115 | -0.45442474  | 0.003157949 | 0.045644 |
| RP11-318E3.9  | 3.021417906 | 1.595225744  | 0.003192056 | 0.046096 |
| CSAD          | 0.699706383 | -0.515178443 | 0.003198372 | 0.046147 |
| RP11-22N19.2  | 2.567927924 | 1.36060471   | 0.003214934 | 0.046345 |
| USP34         | 0.773496475 | -0.370533378 | 0.003221944 | 0.046405 |
| MSANTD1       | 0.378867975 | -1.400232899 | 0.003225034 | 0.046409 |
| HSD17B11      | 1.340737099 | 0.423026372  | 0.003238881 | 0.046567 |
| EFCAB4B       | 0.678188823 | -0.560241086 | 0.003254667 | 0.046753 |
| HMOX1         | 1.367787716 | 0.451844338  | 0.003273124 | 0.046977 |
| COPS3         | 1.300794601 | 0.379393175  | 0.003292189 | 0.047198 |
| RAPH1         | 0.740231216 | -0.433952118 | 0.003294269 | 0.047198 |
| SLC25A27      | 0.626825332 | -0.673864611 | 0.003315492 | 0.047441 |
| SETD5-AS1     | 1.392181185 | 0.477346982  | 0.003317074 | 0.047441 |
| RP11-552M11.8 | 0.500288272 | -0.999168462 | 0.003324997 | 0.047513 |
| TSC2          | 0.757048516 | -0.401542336 | 0.003357081 | 0.04791  |
| WBP1          | 0.651161869 | -0.618911875 | 0.003358631 | 0.04791  |
| PARP6         | 0.738522436 | -0.437286345 | 0.003368068 | 0.048003 |
| KMO           | 2.447809263 | 1.291491145  | 0.003385891 | 0.048215 |
| LINC00909     | 1.482206856 | 0.567746804  | 0.003389437 | 0.048224 |
| KLK6          | 1.334533547 | 0.416335571  | 0.00339488  | 0.048259 |
| FOXD2-AS1     | 1.554796311 | 0.63672559   | 0.003404948 | 0.048347 |
| ANKRD65       | 1.638575123 | 0.712441817  | 0.003406964 | 0.048347 |
| MROH6         | 0.747399719 | -0.420048075 | 0.003411727 | 0.048373 |
| KLF9          | 1.491497164 | 0.576761235  | 0.003420451 | 0.048454 |
| LINC00493     | 1.35996807  | 0.443572779  | 0.00342942  | 0.048539 |
| IFT140        | 0.738179529 | -0.437956365 | 0.003435893 | 0.048589 |
| DUSP8         | 1.767479193 | 0.821693232  | 0.003439083 | 0.048592 |
| ASF1B         | 1.294092399 | 0.37194063   | 0.003465917 | 0.048922 |
| MTG1          | 0.536867881 | -0.897360999 | 0.003470603 | 0.048922 |
| SMN1          | 1.374107803 | 0.458495192  | 0.003472251 | 0.048922 |
| CORO6         | 0.729134202 | -0.455743718 | 0.003474365 | 0.048922 |
| TNNI3         | 0.607180412 | -0.719802846 | 0.003497736 | 0.049188 |
| LFNG          | 0.699127151 | -0.516373232 | 0.003499276 | 0.049188 |
| TRMT112       | 1.293260525 | 0.371012933  | 0.003505372 | 0.049232 |
| MAN2A2        | 0.762387991 | -0.391402701 | 0.003514583 | 0.049319 |
| RNF111        | 0.737432783 | -0.439416542 | 0.003528571 | 0.049472 |
| SREBF1        | 0.769168784 | -0.378627882 | 0.00353723  | 0.049537 |
| TPCN1         | 0.741949759 | -0.430606597 | 0.003541096 | 0.049537 |
| ANKRD17       | 0.774778421 | -0.368144323 | 0.003544892 | 0.049537 |
| SLC7A6        | 0.767989983 | -0.380840602 | 0.003546669 | 0.049537 |
| BDNF          | 0.731515409 | -0.45103984  | 0.003548268 | 0.049537 |
| ZNF607        | 0.631730287 | -0.662619354 | 0.003554187 | 0.049577 |
| RP11-166P13.3 | 1.864863945 | 0.89907038   | 0.003582764 | 0.049933 |
| MICB          | 1.343777941 | 0.426294753  | 0.00358716  | 0.049939 |
| UTRN          | 0.753775123 | -0.407793912 | 0.003589318 | 0.049939 |
| RND3          | 1.37027851  | 0.454469152  | 0.003596507 | 0.049997 |
| NARF-IT1      | 0.299729684 | -1.738266127 | 0.003624036 | 0.050337 |
| C10orf91      | 2.258954235 | 1.175655043  | 0.003630851 | 0.050389 |
| ANXA2R        | 2.421335058 | 1.27580273   | 0.003641812 | 0.050448 |
| SYT5          | 2.499034837 | 1.321371013  | 0.003641828 | 0.050448 |
| ZNF587        | 0.745855922 | -0.423031125 | 0.003644333 | 0.050448 |
| RP11-690D19.3 | 0.475023431 | -1.073929418 | 0.003647911 | 0.050455 |
| ZNF143        | 1.345556957 | 0.428203461  | 0.003653048 | 0.050475 |

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| TRIM46        | 0.655388216 | -0.609578362 | 0.00366083  | 0.050475 |
| RP11-458F8.4  | 0.620980215 | -0.687380792 | 0.003660898 | 0.050475 |
| EP400         | 0.771465785 | -0.374325921 | 0.003661717 | 0.050475 |
| REV3L         | 0.74514939  | -0.424398404 | 0.003670187 | 0.050549 |
| CEL           | 0.433222842 | -1.206818781 | 0.003689126 | 0.050767 |
| KCNQ10T1      | 0.65741499  | -0.605123743 | 0.003707236 | 0.05094  |
| ALPK3         | 0.486068027 | -1.040769858 | 0.003710705 | 0.05094  |
| ATXN2         | 0.752086534 | -0.41102943  | 0.003714718 | 0.05094  |
| SEMA6C        | 0.715543071 | -0.482889485 | 0.003716261 | 0.05094  |
| SIN3B         | 0.762583031 | -0.391033667 | 0.003717198 | 0.05094  |
| RNF169        | 0.76029568  | -0.395367501 | 0.003725056 | 0.051005 |
| DCUN1D3       | 0.744422582 | -0.425806274 | 0.003741476 | 0.051187 |
| AC092811.1    | 0.344387854 | -1.537893835 | 0.003756554 | 0.05135  |
| ZBED4         | 0.765631045 | -0.385278765 | 0.00376189  | 0.05138  |
| RP11-203M5.7  | 0.343898525 | -1.539945168 | 0.003825474 | 0.052158 |
| HELZ          | 0.771868803 | -0.373572446 | 0.003830651 | 0.052158 |
| IRAK2         | 1.530221188 | 0.613740204  | 0.003831492 | 0.052158 |
| ERC1          | 0.761790965 | -0.392532918 | 0.003834659 | 0.052158 |
| FAM13B        | 0.719130333 | -0.475674832 | 0.00383476  | 0.052158 |
| DDX60L        | 0.765278444 | -0.385943332 | 0.003839816 | 0.052183 |
| CTC-429P9.3   | 0.591385231 | -0.75782988  | 0.003860155 | 0.052383 |
| GPATCH8       | 0.76942282  | -0.378151477 | 0.003860888 | 0.052383 |
| RP11-304L19.3 | 0.461017246 | -1.117107375 | 0.003865448 | 0.052401 |
| AC093673.5    | 1.596474235 | 0.67488927   | 0.003877367 | 0.052519 |
| AC004466.1    | 0.587534358 | -0.767254875 | 0.003900094 | 0.052783 |
| RP11-872J21.3 | 2.503874445 | 1.324162221  | 0.003903823 | 0.05279  |
| RP11-352G9.1  | 3.612921345 | 1.853165847  | 0.003930067 | 0.053101 |
| MPRIP         | 0.775645218 | -0.366531184 | 0.003945565 | 0.053267 |
| RP13-516M14.1 | 1.5638528   | 0.645104723  | 0.003959739 | 0.053414 |
| SOS1          | 0.749675128 | -0.415662556 | 0.003965847 | 0.053452 |
| SYTL1         | 0.750176451 | -0.41469812  | 0.003971834 | 0.053489 |
| CHD2          | 0.778133449 | -0.361910498 | 0.004003449 | 0.053871 |
| BAIAP2L2      | 0.550135884 | -0.862140085 | 0.004023289 | 0.054046 |
| MKLN1         | 0.772086039 | -0.373166469 | 0.004025418 | 0.054046 |
| ZNF562        | 0.669369273 | -0.579125769 | 0.004032835 | 0.054046 |
| ZSCAN25       | 0.687903753 | -0.539721368 | 0.004037268 | 0.054046 |
| SLC30A3       | 0.74755878  | -0.419741074 | 0.004039657 | 0.054046 |
| DNAAF1        | 0.717353796 | -0.47924327  | 0.004040804 | 0.054046 |
| RP11-486G15.2 | 1.832125118 | 0.87351803   | 0.004041677 | 0.054046 |
| TNS4          | 0.767132463 | -0.382452382 | 0.004046006 | 0.054046 |
| SLC6A6        | 0.770884619 | -0.375413152 | 0.004046211 | 0.054046 |
| DGKQ          | 0.76521078  | -0.386070898 | 0.004055857 | 0.054113 |
| GSTM2         | 0.484530479 | -1.045340674 | 0.004057841 | 0.054113 |
| DPH5          | 1.327656302 | 0.408881716  | 0.004065738 | 0.054175 |
| RBFOX3        | 0.452107452 | -1.145262397 | 0.004080482 | 0.054314 |
| MACF1         | 0.77886117  | -0.360561899 | 0.00408282  | 0.054314 |
| NACC2         | 0.763230618 | -0.389809046 | 0.004096599 | 0.054453 |
| RP11-73M18.8  | 0.629302947 | -0.668173395 | 0.004109695 | 0.054583 |
| IQSEC1        | 0.751310808 | -0.412518239 | 0.004121929 | 0.054701 |
| MBD6          | 0.747514023 | -0.419827451 | 0.004127418 | 0.054729 |
| TNRC6C        | 0.736056624 | -0.442111339 | 0.0041399   | 0.05485  |
| SOGA2         | 0.748181686 | -0.418539442 | 0.004157276 | 0.055015 |
| NABP2         | 1.319410797 | 0.399893816  | 0.00415908  | 0.055015 |
| SNX3          | 1.286110089 | 0.36301414   | 0.004166134 | 0.055064 |



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| EXTL3-AS1      | 2.538796276 | 1.344144631  | 0.004175439 | 0.055143 |
| RNF123         | 0.768676358 | -0.379551798 | 0.004188494 | 0.055246 |
| MTHFR          | 0.742835243 | -0.428885832 | 0.004191929 | 0.055246 |
| AN08           | 0.748798587 | -0.417350382 | 0.004193399 | 0.055246 |
| EFCAB13        | 0.395998544 | -1.336432969 | 0.004196873 | 0.055248 |
| RALGAPB        | 0.76790368  | -0.381002733 | 0.004218488 | 0.055488 |
| RP4-773N10.4   | 0.703356976 | -0.507671006 | 0.00423601  | 0.055673 |
| BTBD7          | 0.745677014 | -0.423377226 | 0.004247064 | 0.055774 |
| CUL7           | 0.760189884 | -0.395568268 | 0.004252131 | 0.055796 |
| ZBED6          | 0.622379487 | -0.684133583 | 0.00425767  | 0.055824 |
| RP11-473M20.7  | 0.670921752 | -0.575783576 | 0.004276148 | 0.056011 |
| TMC5           | 0.691738642 | -0.531701044 | 0.004278829 | 0.056011 |
| DMPK           | 0.759781326 | -0.39634384  | 0.004294333 | 0.056169 |
| SYN1           | 2.767908176 | 1.468796083  | 0.004302186 | 0.056227 |
| CTTNBP2NL      | 0.726579095 | -0.460808238 | 0.00432489  | 0.056479 |
| HSPA5          | 1.292420874 | 0.370075957  | 0.004355679 | 0.056836 |
| WBP5           | 1.327600559 | 0.408821142  | 0.004361477 | 0.056866 |
| OAS2           | 3.013840911 | 1.591603265  | 0.004371658 | 0.056953 |
| RP11-533E19.7  | 3.169954777 | 1.664462259  | 0.004380378 | 0.057022 |
| RP11-389C8.3   | 0.384965333 | -1.377199562 | 0.004414176 | 0.057386 |
| SP140L         | 0.7097572   | -0.494602515 | 0.004415352 | 0.057386 |
| ZNF783         | 0.62917839  | -0.668458974 | 0.004449367 | 0.05776  |
| ANKHD1         | 0.458973478 | -1.123517307 | 0.004451186 | 0.05776  |
| SLC9A3         | 0.714410667 | -0.485174473 | 0.004465617 | 0.057901 |
| MRPL23-AS1     | 0.494846429 | -1.014947228 | 0.004503627 | 0.058348 |
| LINC00174      | 0.652600365 | -0.615728301 | 0.00451705  | 0.058475 |
| HSPBP1         | 1.298818597 | 0.377199947  | 0.004528243 | 0.058574 |
| KIF5C          | 0.736721318 | -0.440809106 | 0.004536055 | 0.058629 |
| YWHAH          | 1.28552797  | 0.362361     | 0.004541189 | 0.058649 |
| AC010525.7     | 0.286860231 | -1.801580121 | 0.004587873 | 0.059205 |
| SLC22A31       | 0.757742319 | -0.400220772 | 0.004607129 | 0.059407 |
| C1S            | 1.684217139 | 0.752078151  | 0.004618586 | 0.059479 |
| PTCD1          | 1.320228469 | 0.400787613  | 0.004620028 | 0.059479 |
| B3GALT5        | 0.669147815 | -0.579603156 | 0.004696055 | 0.060411 |
| HES6           | 1.303807807 | 0.382731219  | 0.00473287  | 0.060836 |
| SLC7A11        | 0.771434779 | -0.374383907 | 0.004738821 | 0.060865 |
| FKTN           | 0.725442083 | -0.463067656 | 0.00474472  | 0.060893 |
| POGZ           | 0.773727107 | -0.370103276 | 0.004749644 | 0.060909 |
| RP11-78A19.3   | 1.369144185 | 0.453274385  | 0.004764275 | 0.061048 |
| SORL1          | 0.773139338 | -0.37119965  | 0.004788173 | 0.061307 |
| HOXC-AS2       | 1.894782484 | 0.92203224   | 0.004798906 | 0.061396 |
| CLU            | 1.301326194 | 0.379982637  | 0.004825557 | 0.061672 |
| RP11-881M11.4  | 0.4129345   | -1.276015136 | 0.00482798  | 0.061672 |
| FAM13A-AS1     | 0.611166654 | -0.710362265 | 0.004851676 | 0.061926 |
| ITPR2          | 0.6880729   | -0.539366671 | 0.004862923 | 0.062017 |
| ANKFY1         | 0.773236924 | -0.371017563 | 0.004866382 | 0.062017 |
| SLC35E3        | 0.671006794 | -0.575600721 | 0.004874727 | 0.062075 |
| SLC7A1         | 0.781003851 | -0.356598433 | 0.004882817 | 0.062099 |
| RP11-379K17.12 | 0.659143372 | -0.60133579  | 0.004886897 | 0.062099 |
| TTLL4          | 0.754629822 | -0.40615898  | 0.004889712 | 0.062099 |
| ZCCHC11        | 0.767608412 | -0.381557573 | 0.004891743 | 0.062099 |
| NUFIP2         | 0.785750508 | -0.347856796 | 0.004904769 | 0.062205 |
| C1orf192       | 0.616741905 | -0.69726122  | 0.004909814 | 0.062205 |
| ATG4B          | 0.775289938 | -0.367192153 | 0.004911515 | 0.062205 |

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| RP1-65P5. 3    | 1. 420547111 | 0. 506446677  | 0. 00492206  | 0. 06229  |
| CCDC163P       | 1. 625020278 | 0. 700457721  | 0. 004943099 | 0. 062508 |
| ZNFX1          | 0. 772138367 | -0. 373068693 | 0. 004948879 | 0. 062516 |
| MT-ATP8        | 0. 583390184 | -0. 777466983 | 0. 004951319 | 0. 062516 |
| AP4E1          | 0. 717422422 | -0. 47910526  | 0. 004962978 | 0. 062615 |
| NEURL4         | 0. 758423297 | -0. 398924814 | 0. 00500417  | 0. 063086 |
| DPH3           | 1. 380655685 | 0. 465353578  | 0. 005012726 | 0. 063145 |
| MED12L         | 0. 70617566  | -0. 501900999 | 0. 005025593 | 0. 063258 |
| ARHGAP29       | 0. 78400318  | -0. 35106859  | 0. 005034281 | 0. 063304 |
| RP11-273B20. 1 | 0. 535773662 | -0. 900304432 | 0. 005036939 | 0. 063304 |
| MIB1           | 0. 779109241 | -0. 360102469 | 0. 005042948 | 0. 063331 |
| FGF19          | 1. 333656603 | 0. 415387241  | 0. 005050909 | 0. 063382 |
| LYPLA1         | 1. 286778356 | 0. 363763574  | 0. 005082872 | 0. 063734 |
| CENPE          | 0. 767740851 | -0. 381308681 | 0. 005090073 | 0. 063776 |
| AC107081. 5    | 1. 297535398 | 0. 375773897  | 0. 005123495 | 0. 064146 |
| DAGLA          | 0. 655887149 | -0. 608480487 | 0. 005129423 | 0. 064171 |
| TMEM41A        | 0. 745181903 | -0. 424335456 | 0. 00514652  | 0. 064335 |
| TNK2-AS1       | 0. 480764071 | -1. 056599011 | 0. 005197936 | 0. 064929 |
| GEN1           | 0. 748486197 | -0. 417952384 | 0. 005215531 | 0. 065099 |
| DCUN1D2-AS     | 0. 336558999 | -1. 571068661 | 0. 005222146 | 0. 065099 |
| SLC25A25       | 1. 308415733 | 0. 387821012  | 0. 005223486 | 0. 065099 |
| LRP8           | 0. 771498012 | -0. 374265655 | 0. 005251706 | 0. 065401 |
| ZMIZ2          | 0. 777000248 | -0. 364013037 | 0. 005260573 | 0. 065461 |
| NWD1           | 2. 631781276 | 1. 396039593  | 0. 005276575 | 0. 065611 |
| FSD1L          | 0. 673036668 | -0. 571242988 | 0. 005283967 | 0. 065653 |
| SLC10A3        | 1. 340009886 | 0. 422243644  | 0. 00529749  | 0. 065771 |
| CAMK2N1        | 1. 361006809 | 0. 444674284  | 0. 005307932 | 0. 065809 |
| ITIH4-AS1      | 0. 356305014 | -1. 488815311 | 0. 005308565 | 0. 065809 |
| ZNF740         | 0. 759767153 | -0. 396370754 | 0. 005320009 | 0. 065901 |
| DYRK2          | 0. 771508022 | -0. 374246936 | 0. 005332529 | 0. 066002 |
| MAP3K12        | 0. 760566624 | -0. 394853464 | 0. 005339684 | 0. 066002 |
| SBF1           | 0. 765389412 | -0. 385734151 | 0. 005340262 | 0. 066002 |
| CDCA5          | 1. 278415137 | 0. 354356395  | 0. 005352937 | 0. 066095 |
| GPR137C        | 1. 8408066   | 0. 880338061  | 0. 005355854 | 0. 066095 |
| ZHX3           | 0. 747516393 | -0. 419822876 | 0. 005383764 | 0. 066389 |
| GMNN           | 1. 292409179 | 0. 370062902  | 0. 005396651 | 0. 066492 |
| NOS1AP         | 0. 503181715 | -0. 990848597 | 0. 005401435 | 0. 066492 |
| COL4A5         | 0. 755083174 | -0. 405292527 | 0. 005405836 | 0. 066492 |
| INF2           | 0. 779349748 | -0. 359657185 | 0. 005408378 | 0. 066492 |
| ATRX           | 0. 77728829  | -0. 363478314 | 0. 005421666 | 0. 066606 |
| NPPA           | 0. 491516003 | -1. 024689706 | 0. 005425774 | 0. 066606 |
| DNER           | 2. 290148876 | 1. 195441387  | 0. 005437779 | 0. 066703 |
| AP006621. 6    | 0. 393470468 | -1. 345672737 | 0. 005454812 | 0. 066862 |
| MCF2L          | 0. 736792469 | -0. 440669779 | 0. 0054884   | 0. 067224 |
| VBP1           | 1. 289566276 | 0. 36688592   | 0. 005498645 | 0. 067259 |
| ABCA5          | 0. 723283713 | -0. 467366429 | 0. 005499512 | 0. 067259 |
| ZNF707         | 0. 723888095 | -0. 466161404 | 0. 005505857 | 0. 067287 |
| CBFA2T3        | 0. 726634158 | -0. 460698908 | 0. 005520565 | 0. 067416 |
| ITGA2B         | 0. 652581732 | -0. 615769492 | 0. 005525998 | 0. 067432 |
| MAPKAPK5-AS1   | 1. 388746291 | 0. 473783059  | 0. 005534201 | 0. 067442 |
| ATP6V1F        | 1. 318268431 | 0. 398644168  | 0. 005536413 | 0. 067442 |
| CTD-3099C6. 9  | 0. 563364594 | -0. 827859199 | 0. 005539169 | 0. 067442 |
| CREBBP         | 0. 771353136 | -0. 374536598 | 0. 00554499  | 0. 067463 |
| TNFAIP3        | 1. 481072172 | 0. 566641944  | 0. 005624306 | 0. 068333 |

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| STK35         | 0.773602992 | -0.37033472  | 0.005626774 | 0.068333 |
| SIRT7         | 0.766990845 | -0.382718737 | 0.005629067 | 0.068333 |
| CHST3         | 0.738978644 | -0.436395422 | 0.005633861 | 0.068341 |
| CYB561D1      | 0.694834202 | -0.525259326 | 0.005638154 | 0.068342 |
| LIME1         | 0.509333799 | -0.973316638 | 0.005664614 | 0.068612 |
| DEPDC5        | 0.725643609 | -0.462666935 | 0.005684034 | 0.068797 |
| FAM184B       | 0.661401756 | -0.596401218 | 0.005692498 | 0.068848 |
| TAOK1         | 0.78679886  | -0.345933228 | 0.0057032   | 0.068927 |
| FOXL1         | 1.533712926 | 0.61702847   | 0.005722671 | 0.069111 |
| PSMD4         | 0.592604028 | -0.754859663 | 0.005727124 | 0.069114 |
| ERRFI1        | 1.293996875 | 0.371834134  | 0.005731697 | 0.069118 |
| ATG2A         | 0.748859155 | -0.417233692 | 0.005753238 | 0.069327 |
| CD55          | 1.305823223 | 0.384959604  | 0.005771576 | 0.069497 |
| RP4-714D9.5   | 0.422531726 | -1.242868424 | 0.005776898 | 0.06951  |
| MAGEF1        | 1.290266435 | 0.367669007  | 0.005808098 | 0.069834 |
| ZNF566        | 0.634546242 | -0.656202793 | 0.005821074 | 0.069938 |
| MYO18A        | 0.755363376 | -0.404757258 | 0.005837014 | 0.070078 |
| RSF1          | 0.77704471  | -0.363930483 | 0.005846817 | 0.070145 |
| PHF12         | 0.766025918 | -0.384534889 | 0.005868093 | 0.070289 |
| LONRF2        | 0.739961031 | -0.434478799 | 0.005869676 | 0.070289 |
| SCAI          | 0.731281558 | -0.451501115 | 0.005871703 | 0.070289 |
| CCS           | 0.745295037 | -0.424116443 | 0.005888578 | 0.070439 |
| LINC00116     | 1.447025056 | 0.533089903  | 0.005904572 | 0.070579 |
| MDGA1         | 0.688694912 | -0.538063076 | 0.005909822 | 0.07059  |
| IBA57         | 0.698957431 | -0.516723501 | 0.005916048 | 0.070598 |
| PTGES3        | 1.296793932 | 0.374949245  | 0.005923365 | 0.070598 |
| ZNF440        | 0.666116645 | -0.586153263 | 0.005923437 | 0.070598 |
| APC           | 0.753604458 | -0.408120595 | 0.005936501 | 0.070703 |
| RP11-5407.11  | 3.489942032 | 1.803203074  | 0.005943434 | 0.070734 |
| LHX9          | 3.502371847 | 1.808332263  | 0.005968777 | 0.070984 |
| PHKA2-AS1     | 0.673145879 | -0.571008905 | 0.005984731 | 0.071122 |
| REM2          | 2.326225467 | 1.217990935  | 0.00599322  | 0.071171 |
| QDPR          | 1.327132236 | 0.408312128  | 0.006022606 | 0.071467 |
| CCDC71L       | 1.424418787 | 0.510373369  | 0.006028146 | 0.071467 |
| TMA7          | 1.298757905 | 0.37713253   | 0.006031191 | 0.071467 |
| BDP1          | 0.770984927 | -0.37522544  | 0.006039408 | 0.071512 |
| RP11-192H23.6 | 0.531482737 | -0.911905263 | 0.006099828 | 0.072175 |
| ADCY10        | 3.308820478 | 1.726317019  | 0.006125817 | 0.072423 |
| SPACA4        | 3.397285856 | 1.764382615  | 0.006129681 | 0.072423 |
| C9orf96       | 2.040340693 | 1.028810072  | 0.00613403  | 0.072423 |
| RHBDF1        | 0.730043899 | -0.453944876 | 0.006142606 | 0.072429 |
| LINC00568     | 3.805549949 | 1.928104956  | 0.006143369 | 0.072429 |
| ABCC2         | 0.754438565 | -0.40652467  | 0.006153871 | 0.072501 |
| HELZ2         | 0.773052404 | -0.37136188  | 0.006158912 | 0.072508 |
| VCAN          | 0.790364538 | -0.339409877 | 0.006184036 | 0.072751 |
| BRICD5        | 0.69362133  | -0.527779829 | 0.006214041 | 0.073031 |
| TCTE3         | 3.021457887 | 1.595244834  | 0.006216703 | 0.073031 |
| AC005789.11   | 0.447408876 | -1.160334216 | 0.006229526 | 0.073129 |
| POMP          | 1.268926219 | 0.343608187  | 0.006245211 | 0.073192 |
| DYNLL1        | 1.2705829   | 0.345490508  | 0.006249563 | 0.073192 |
| CTD-2044J15.2 | 0.557788211 | -0.842210652 | 0.006253829 | 0.073192 |
| PTPN22        | 3.078628707 | 1.622287884  | 0.006257858 | 0.073192 |
| WDR52         | 0.727244078 | -0.459488451 | 0.006260638 | 0.073192 |
| RP11-33504.3  | 0.602850269 | -0.730128373 | 0.006261697 | 0.073192 |

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| CTD-2521M24. 9  | 3. 152487584 | 1. 656490689  | 0. 006274216 | 0. 073286 |
| SF3B14          | 1. 304665597 | 0. 383680072  | 0. 00628895  | 0. 073405 |
| ALB             | 3. 135075765 | 1. 648500309  | 0. 006305787 | 0. 07355  |
| ZNF596          | 1. 53784237  | 0. 620907633  | 0. 006313855 | 0. 073591 |
| PANK3           | 0. 781802121 | -0. 355124597 | 0. 006347166 | 0. 073927 |
| ARF4            | 1. 27113024  | 0. 346111857  | 0. 00638321  | 0. 074294 |
| UCN2            | 0. 376509945 | -1. 409240122 | 0. 006394803 | 0. 074376 |
| FAM118A         | 0. 760721161 | -0. 394560358 | 0. 006417168 | 0. 074548 |
| TYMS            | 1. 276802766 | 0. 352535682  | 0. 006418729 | 0. 074548 |
| HSPA12B         | 0. 491681558 | -1. 02420385  | 0. 00643323  | 0. 074664 |
| AL139099. 1     | 1. 606876254 | 0. 684258831  | 0. 006451367 | 0. 074821 |
| UNG             | 1. 286441039 | 0. 363385336  | 0. 006459819 | 0. 074866 |
| ALPK2           | 0. 724944441 | -0. 464057663 | 0. 006468518 | 0. 074914 |
| UBE2G2          | 0. 786238376 | -0. 346961312 | 0. 006502709 | 0. 075257 |
| H1FX            | 1. 27014789  | 0. 344996487  | 0. 006507851 | 0. 075263 |
| CTD-2292M16. 8  | 0. 455047042 | -1. 135912397 | 0. 006533426 | 0. 075506 |
| AC002467. 7     | 1. 903588484 | 0. 928721632  | 0. 006540842 | 0. 075538 |
| CEP170B         | 0. 783050017 | -0. 352823633 | 0. 006545862 | 0. 075543 |
| PIK3C2A         | 0. 783033911 | -0. 352853307 | 0. 006551103 | 0. 07555  |
| NAIF1           | 1. 405183865 | 0. 490758916  | 0. 006605092 | 0. 076089 |
| RASAL2          | 0. 750467472 | -0. 414138553 | 0. 006608008 | 0. 076089 |
| CTC-425023. 2   | 0. 416126359 | -1. 264906418 | 0. 006614314 | 0. 076089 |
| H1FX-AS1        | 1. 291013955 | 0. 368504595  | 0. 006616429 | 0. 076089 |
| RP11-254F7. 3   | 2. 533539511 | 1. 341154328  | 0. 006631123 | 0. 076204 |
| GGA1            | 0. 78359982  | -0. 351811028 | 0. 006637936 | 0. 076229 |
| TRIM25          | 0. 7892094   | -0. 341519955 | 0. 0066463   | 0. 076272 |
| ZZEF1           | 0. 769517305 | -0. 377974325 | 0. 00668211  | 0. 076629 |
| ZNF708          | 0. 555095299 | -0. 84919262  | 0. 006708229 | 0. 076826 |
| IGF2BP2         | 0. 615410229 | -0. 700379672 | 0. 006708679 | 0. 076826 |
| SNAI2           | 2. 042104694 | 1. 030056831  | 0. 006739099 | 0. 077113 |
| CACYBP          | 1. 288399314 | 0. 365579798  | 0. 006743156 | 0. 077113 |
| PAPLN           | 0. 712742851 | -0. 488546432 | 0. 006755709 | 0. 077203 |
| C12orf44        | 1. 28779914  | 0. 364907592  | 0. 006764466 | 0. 077249 |
| ANKRD10-IT1     | 0. 653042223 | -0. 614751822 | 0. 006789956 | 0. 077437 |
| MRPL13          | 1. 280622875 | 0. 356845685  | 0. 006790388 | 0. 077437 |
| BEX2            | 1. 338992285 | 0. 421147648  | 0. 006797185 | 0. 07746  |
| YRDC            | 1. 304525454 | 0. 383525094  | 0. 006804182 | 0. 077486 |
| CPA4            | 0. 714513016 | -0. 484967803 | 0. 006821305 | 0. 077574 |
| 15-Sep          | 1. 270644563 | 0. 345560523  | 0. 006821383 | 0. 077574 |
| ZNF575          | 1. 357890724 | 0. 441367383  | 0. 006833217 | 0. 077655 |
| RP11-1081L13. 4 | 0. 284602438 | -1. 812980073 | 0. 006845736 | 0. 077743 |
| AFF4            | 0. 786528352 | -0. 346429324 | 0. 006859887 | 0. 07785  |
| UNC13D          | 0. 756246438 | -0. 403071653 | 0. 006881031 | 0. 078036 |
| PRKRIP1         | 0. 755246361 | -0. 404980768 | 0. 006889351 | 0. 078076 |
| ATXN2L          | 0. 771653972 | -0. 373974041 | 0. 006894447 | 0. 07808  |
| RP5-1024G6. 8   | 0. 716768554 | -0. 480420749 | 0. 006914024 | 0. 078247 |
| CAPN15          | 0. 779868367 | -0. 358697461 | 0. 006963768 | 0. 078728 |
| SETD5           | 0. 787882394 | -0. 343947797 | 0. 006966864 | 0. 078728 |
| TRPM4           | 0. 76163451  | -0. 392829246 | 0. 00697095  | 0. 078728 |
| AC010525. 6     | 0. 37697925  | -1. 407442978 | 0. 006977566 | 0. 078749 |
| RNF113A         | 1. 507851607 | 0. 592494455  | 0. 007001161 | 0. 078907 |
| RP4-813F11. 4   | 2. 41641426  | 1. 272867806  | 0. 007003079 | 0. 078907 |
| IL17B           | 2. 384879863 | 1. 253916593  | 0. 007005988 | 0. 078907 |
| ACAP3           | 0. 777570339 | -0. 362954908 | 0. 007020736 | 0. 079018 |

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| ZNF408         | 1. 419604209 | 0. 505488757  | 0. 007030111 | 0. 079069 |
| NR1D1          | 1. 335050458 | 0. 416894269  | 0. 007056134 | 0. 079308 |
| CDC42BPA       | 0. 790219859 | -0. 339673992 | 0. 00706353  | 0. 079321 |
| TAX1BP3        | 0. 351248044 | -1. 509437905 | 0. 007067582 | 0. 079321 |
| MEST           | 1. 368630991 | 0. 452733521  | 0. 00707187  | 0. 079321 |
| BTN3A3         | 0. 629030858 | -0. 668797303 | 0. 007078336 | 0. 079339 |
| PKD2           | 0. 743068061 | -0. 428433736 | 0. 007097601 | 0. 079501 |
| RP11-869B15. 1 | 0. 456500456 | -1. 131311793 | 0. 007103432 | 0. 079512 |
| AC073283. 4    | 0. 268338298 | -1. 897875121 | 0. 007109624 | 0. 079527 |
| MICAL3         | 0. 750932999 | -0. 413243904 | 0. 00714125  | 0. 079826 |
| PPP1R9A        | 0. 734874048 | -0. 444431091 | 0. 00714809  | 0. 079848 |
| C11orf84       | 1. 285450315 | 0. 362273849  | 0. 007162813 | 0. 079958 |
| ANKRD12        | 0. 745305048 | -0. 424097064 | 0. 007190846 | 0. 080216 |
| TMEM67         | 0. 755618056 | -0. 404270919 | 0. 007198396 | 0. 080246 |
| TRIM36         | 1. 40561786  | 0. 491204428  | 0. 00721208  | 0. 080344 |
| TCEA1          | 1. 275677177 | 0. 351263286  | 0. 007226292 | 0. 080393 |
| CTC-425F1. 4   | 1. 263965351 | 0. 337956915  | 0. 007226306 | 0. 080393 |
| RNF32          | 0. 68583492  | -0. 544066733 | 0. 007238899 | 0. 080478 |
| BHLHE40-AS1    | 1. 780938956 | 0. 832638067  | 0. 007294561 | 0. 081042 |
| SH3RF2         | 0. 724266155 | -0. 465408135 | 0. 00730441  | 0. 081096 |
| DNAH1          | 0. 709826441 | -0. 494461779 | 0. 007329254 | 0. 081274 |
| DSCC1          | 1. 290555455 | 0. 367992135  | 0. 007330308 | 0. 081274 |
| RP11-13A1. 1   | 0. 737206038 | -0. 439860208 | 0. 007339185 | 0. 081317 |
| PDPK1          | 0. 775927238 | -0. 366006724 | 0. 007356225 | 0. 081427 |
| RP11-430C7. 5  | 0. 429250258 | -1. 220109093 | 0. 007359094 | 0. 081427 |
| WNT10A         | 2. 075681027 | 1. 05358476   | 0. 007402162 | 0. 081811 |
| OTUD1          | 1. 499967635 | 0. 584931372  | 0. 007403781 | 0. 081811 |
| RP11-492E3. 2  | 2. 608590658 | 1. 383270573  | 0. 007450468 | 0. 082259 |
| BRCA2          | 0. 738586758 | -0. 437160698 | 0. 00745439  | 0. 082259 |
| PTCH2          | 0. 650078138 | -0. 621314959 | 0. 007466885 | 0. 082342 |
| FCRLB          | 2. 663383426 | 1. 413260137  | 0. 007492276 | 0. 082566 |
| RP11-401P9. 4  | 0. 658141773 | -0. 6035297   | 0. 007506261 | 0. 082665 |
| PHLDB1         | 0. 774744866 | -0. 368206805 | 0. 007522808 | 0. 082787 |
| PDE6C          | 0. 402236097 | -1. 313885539 | 0. 007527511 | 0. 082787 |
| ZNF207         | 0. 785795582 | -0. 347774038 | 0. 007546618 | 0. 082942 |
| OIP5           | 1. 365170739 | 0. 449081397  | 0. 00756834  | 0. 083125 |
| KMT2E          | 0. 770825625 | -0. 375523562 | 0. 007586352 | 0. 083227 |
| KIF1B          | 0. 791244693 | -0. 337804178 | 0. 007587819 | 0. 083227 |
| AC002401. 1    | 0. 752830689 | -0. 409602654 | 0. 007603416 | 0. 083336 |
| DDX60          | 0. 708887852 | -0. 496370687 | 0. 007607889 | 0. 083336 |
| ERCC2          | 0. 783081815 | -0. 352765049 | 0. 007631347 | 0. 083537 |
| PSMD14         | 1. 266255561 | 0. 340568605  | 0. 007646214 | 0. 083644 |
| COL27A1        | 0. 767338957 | -0. 382064093 | 0. 007666026 | 0. 083804 |
| ENG            | 0. 642727488 | -0. 63772092  | 0. 007672438 | 0. 083818 |
| MTSS1          | 1. 360983572 | 0. 444649653  | 0. 007727822 | 0. 084367 |
| FAT2           | 0. 454950911 | -1. 136217207 | 0. 007757591 | 0. 084624 |
| LIMD1          | 0. 775330148 | -0. 36711733  | 0. 007761661 | 0. 084624 |
| GRIN2D         | 0. 756354526 | -0. 402865467 | 0. 00777044  | 0. 084663 |
| TET2           | 0. 736627847 | -0. 440992158 | 0. 007780508 | 0. 084716 |
| JUND           | 1. 263774099 | 0. 337738603  | 0. 007785657 | 0. 084716 |
| GOLGA8A        | 0. 605878459 | -0. 72289968  | 0. 007795048 | 0. 084762 |
| NR3C1          | 0. 746335043 | -0. 422104668 | 0. 007811759 | 0. 084887 |
| PCDH12         | 0. 543406601 | -0. 879896004 | 0. 007831699 | 0. 085038 |
| C8G            | 0. 510183084 | -0. 970913031 | 0. 007836012 | 0. 085038 |

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| XX-C283C717. 1 | 0. 508699323 | -0. 975114919 | 0. 007841687 | 0. 085043 |
| GPRASP2        | 0. 506598043 | -0. 981086591 | 0. 007848696 | 0. 085063 |
| FOXN3          | 0. 741828719 | -0. 430841973 | 0. 007858333 | 0. 085087 |
| COA6           | 1. 354245978 | 0. 437489806  | 0. 007863835 | 0. 085087 |
| ARHGEF10       | 0. 793851547 | -0. 333058851 | 0. 007866488 | 0. 085087 |
| PRKDC          | 0. 788863966 | -0. 342151555 | 0. 007888389 | 0. 085174 |
| PIANP          | 2. 632664084 | 1. 396523452  | 0. 007890855 | 0. 085174 |
| KIF18B         | 0. 787526379 | -0. 344599847 | 0. 007893038 | 0. 085174 |
| PDZD7          | 0. 738724995 | -0. 436890703 | 0. 007898618 | 0. 085174 |
| ADAMTS14       | 0. 767501064 | -0. 381759345 | 0. 007900584 | 0. 085174 |
| TRAM2          | 0. 782001763 | -0. 354756235 | 0. 007908001 | 0. 085178 |
| AKT1S1         | 1. 272586336 | 0. 347763536  | 0. 007911362 | 0. 085178 |
| AREG           | 1. 301970358 | 0. 380696603  | 0. 007923994 | 0. 085241 |
| ADI1           | 1. 323700578 | 0. 404576821  | 0. 007930697 | 0. 085241 |
| SEC14L4        | 0. 722066716 | -0. 469795953 | 0. 007932744 | 0. 085241 |
| DCST2          | 0. 574300712 | -0. 800121743 | 0. 007970879 | 0. 085594 |
| CLN8           | 0. 774838162 | -0. 368033085 | 0. 008022145 | 0. 086088 |
| AC005841. 1    | 0. 402128008 | -1. 314273273 | 0. 00803072  | 0. 086124 |
| RPS18          | 0. 770457859 | -0. 376212045 | 0. 008040598 | 0. 086173 |
| STRIP1         | 0. 752357535 | -0. 410509673 | 0. 008062591 | 0. 086337 |
| CUBN           | 0. 562862978 | -0. 829144336 | 0. 008066423 | 0. 086337 |
| CMTM4          | 0. 793985001 | -0. 332816341 | 0. 008088398 | 0. 086511 |
| DDT            | 1. 295500676 | 0. 373509768  | 0. 008095655 | 0. 086511 |
| AC010761. 8    | 0. 589108837 | -0. 763393901 | 0. 008100149 | 0. 086511 |
| XBP1           | 1. 291842739 | 0. 369430455  | 0. 008103812 | 0. 086511 |
| NRARP          | 1. 33004622  | 0. 411476381  | 0. 008116998 | 0. 086595 |
| NEIL1          | 0. 744897981 | -0. 424885243 | 0. 008161456 | 0. 087013 |
| MED13L         | 0. 79858623  | -0. 3244799   | 0. 008167245 | 0. 087018 |
| SMG6           | 0. 772284238 | -0. 372796168 | 0. 008175413 | 0. 087048 |
| INSIG1         | 1. 270622546 | 0. 345535523  | 0. 008187815 | 0. 087124 |
| MROH1          | 0. 747958438 | -0. 418969989 | 0. 008227946 | 0. 087494 |
| RP11-258C19. 7 | 0. 624526668 | -0. 679164917 | 0. 008270673 | 0. 087852 |
| RP11-283I3. 6  | 0. 62698384  | -0. 673499835 | 0. 008272379 | 0. 087852 |
| ESD            | 1. 264352783 | 0. 338399064  | 0. 008286419 | 0. 087928 |
| SETD1B         | 0. 764495155 | -0. 387420737 | 0. 008296325 | 0. 087928 |
| TMEM99         | 1. 331958583 | 0. 413549223  | 0. 008308834 | 0. 087928 |
| NDUFAF4        | 1. 583736548 | 0. 663332365  | 0. 008315679 | 0. 087928 |
| RPLP0          | 0. 765552075 | -0. 385427578 | 0. 008315709 | 0. 087928 |
| FAM195A        | 1. 356667267 | 0. 440066932  | 0. 008316538 | 0. 087928 |
| CCDC117        | 1. 285972742 | 0. 362860063  | 0. 008317066 | 0. 087928 |
| CELSR2         | 0. 778090478 | -0. 361990171 | 0. 008337301 | 0. 088085 |
| ULBP2          | 1. 37774177  | 0. 462305509  | 0. 008343264 | 0. 088091 |
| HIRIP3         | 1. 278742726 | 0. 354726033  | 0. 008399883 | 0. 088632 |
| IRGQ           | 0. 760221059 | -0. 395509105 | 0. 008419912 | 0. 088786 |
| NUTM2D         | 2. 865093929 | 1. 518582437  | 0. 008430299 | 0. 088838 |
| CAMK1D         | 0. 765014244 | -0. 386441484 | 0. 008439809 | 0. 088838 |
| MAD2L1         | 1. 280293738 | 0. 356474846  | 0. 008446019 | 0. 088838 |
| NXT2           | 1. 383549149 | 0. 468373895  | 0. 008450455 | 0. 088838 |
| TBC1D20        | 0. 779545285 | -0. 359295262 | 0. 008451947 | 0. 088838 |
| DAD1           | 1. 258302299 | 0. 331478562  | 0. 0084792   | 0. 089067 |
| HDAC7          | 0. 768854573 | -0. 379217353 | 0. 008506642 | 0. 089298 |
| RP11-277B15. 3 | 2. 828852968 | 1. 500217193  | 0. 008514764 | 0. 089323 |
| SMTNL1         | 0. 42716021  | -1. 22715083  | 0. 008519905 | 0. 089323 |
| U47924. 31     | 1. 278752489 | 0. 354737048  | 0. 008549752 | 0. 089578 |

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| ZNF106        | 0.788914602 | -0.342058954 | 0.008586344 | 0.089904 |
| FKBP7         | 1.493036326 | 0.578249267  | 0.008601043 | 0.089988 |
| SLC25A29      | 0.778364933 | -0.361481379 | 0.008605384 | 0.089988 |
| AC127496.1    | 0.445301534 | -1.167145514 | 0.008635332 | 0.090244 |
| KCNIP2-AS1    | 0.591465826 | -0.75763328  | 0.008648347 | 0.090322 |
| KCNIP2        | 0.705970931 | -0.502319315 | 0.008655324 | 0.090338 |
| PLA2G4A       | 1.357853445 | 0.441327776  | 0.008674573 | 0.090481 |
| KB-1732A1.1   | 1.818021493 | 0.862369256  | 0.008717266 | 0.09081  |
| MAPK11        | 0.77324097  | -0.371010015 | 0.008718548 | 0.09081  |
| NOSTRIN       | 0.565852566 | -0.821501889 | 0.008722799 | 0.09081  |
| TMEM254-AS1   | 1.921908298 | 0.942539501  | 0.008732631 | 0.090855 |
| KB-226F1.2    | 2.831267555 | 1.50144809   | 0.008764354 | 0.091077 |
| PLEKHG4       | 0.777521177 | -0.363046124 | 0.008765109 | 0.091077 |
| TMEM175       | 0.728032218 | -0.457925799 | 0.008802697 | 0.09141  |
| CLEC2D        | 0.473110912 | -1.079749659 | 0.008816965 | 0.091419 |
| LTK           | 0.750843765 | -0.41341535  | 0.008819235 | 0.091419 |
| RP11-115D19.1 | 1.342739061 | 0.425178968  | 0.008820324 | 0.091419 |
| NR2C2AP       | 1.27930665  | 0.35536212   | 0.008859877 | 0.091737 |
| FAM183B       | 3.28022174  | 1.713793343  | 0.008862199 | 0.091737 |
| SLC17A9       | 0.766485217 | -0.383670127 | 0.008900537 | 0.092019 |
| ZNF358        | 1.450614204 | 0.53666388   | 0.008903689 | 0.092019 |
| PPP1R1B       | 3.038066402 | 1.603153403  | 0.008906317 | 0.092019 |
| PLA2G10       | 2.977139122 | 1.57392664   | 0.008925929 | 0.092128 |
| RP11-575F12.1 | 3.012056339 | 1.590748755  | 0.008928135 | 0.092128 |
| MSLNL         | 0.563507687 | -0.827492804 | 0.008940609 | 0.092199 |
| STK4-AS1      | 3.108075458 | 1.63602153   | 0.008987678 | 0.092626 |
| CCDC88A       | 0.777789992 | -0.362547423 | 0.009009143 | 0.092789 |
| AC011747.7    | 1.962655    | 0.972806595  | 0.009020743 | 0.09285  |
| THSD4         | 0.726102633 | -0.46175461  | 0.009034975 | 0.092938 |
| TUBB3         | 0.741185431 | -0.432093571 | 0.009062027 | 0.093141 |
| SLC37A3       | 0.767125755 | -0.382464996 | 0.009066155 | 0.093141 |
| CDT1          | 1.257946147 | 0.331070161  | 0.009074632 | 0.09317  |
| C19orf40      | 1.65455793  | 0.726445805  | 0.009085155 | 0.09322  |
| ALX3          | 0.599831449 | -0.737370931 | 0.009118993 | 0.093499 |
| PCBP1         | 1.25693007  | 0.329904387  | 0.00912379  | 0.093499 |
| LRP1B         | 0.689970896 | -0.535392586 | 0.009133689 | 0.09351  |
| GAS7          | 0.732815132 | -0.448478801 | 0.009136318 | 0.09351  |
| C6orf120      | 1.297495759 | 0.375729823  | 0.009202164 | 0.094125 |
| DMXL2         | 0.786793591 | -0.345942889 | 0.009220932 | 0.094239 |
| BTNL9         | 0.749670863 | -0.415670764 | 0.009224826 | 0.094239 |
| MYRF          | 0.793109189 | -0.334408597 | 0.009239907 | 0.09428  |
| AFAP1         | 0.772698794 | -0.372021948 | 0.009246056 | 0.09428  |
| PGF           | 1.355081529 | 0.438379654  | 0.009246078 | 0.09428  |
| FCHSD1        | 0.784519104 | -0.350119516 | 0.009261889 | 0.094339 |
| ZNF544        | 0.76422232  | -0.387935701 | 0.009263334 | 0.094339 |
| PAIP1         | 1.507076898 | 0.591753032  | 0.009270727 | 0.094355 |
| RP4-792G4.2   | 1.803171705 | 0.850536782  | 0.009297839 | 0.094572 |
| CGNL1         | 0.703456293 | -0.507467305 | 0.009319412 | 0.094675 |
| MED22         | 0.760566027 | -0.394854597 | 0.00931949  | 0.094675 |
| MYOM2         | 1.610576086 | 0.687576817  | 0.009387312 | 0.09526  |
| CLASRP        | 0.778873158 | -0.360539695 | 0.009388736 | 0.09526  |
| RP4-548D19.3  | 0.641867734 | -0.639652056 | 0.009411948 | 0.095437 |
| RP11-203M5.2  | 1.520250127 | 0.60430871   | 0.009423064 | 0.09549  |
| RP11-95I16.4  | 0.518203736 | -0.948408678 | 0.009458398 | 0.095789 |

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|----------------|-------------|--------------|-------------|----------|
| SH3D19         | 0.782620218 | -0.353615713 | 0.009505539 | 0.096207 |
| GRAMD4         | 0.753937029 | -0.407484064 | 0.009524843 | 0.096343 |
| UBE2A          | 1.273972011 | 0.349333582  | 0.00953254  | 0.096361 |
| BANF1          | 1.261841445 | 0.335530642  | 0.009544189 | 0.096419 |
| PMP22          | 1.280858443 | 0.357111041  | 0.009565907 | 0.096579 |
| SMAP1          | 0.613802547 | -0.704153462 | 0.009578726 | 0.096649 |
| SLC4A11        | 0.758831904 | -0.398147758 | 0.009613031 | 0.096935 |
| ACVR2B         | 0.762215024 | -0.391730049 | 0.009634704 | 0.097094 |
| LINC00265      | 0.467838669 | -1.095916984 | 0.009642972 | 0.097118 |
| PDE1A          | 0.367509785 | -1.444145434 | 0.009654214 | 0.097171 |
| UNK            | 0.77577557  | -0.366288751 | 0.00966475  | 0.097217 |
| OGDHL          | 0.767964327 | -0.380888797 | 0.009698887 | 0.097479 |
| SLC16A5        | 0.776088244 | -0.365707394 | 0.009706981 | 0.097479 |
| ATG3           | 1.284870907 | 0.361623417  | 0.009708637 | 0.097479 |
| CAMTA2         | 0.779585719 | -0.359220433 | 0.009733147 | 0.097665 |
| AC010327.2     | 0.752003389 | -0.411188931 | 0.009768752 | 0.097963 |
| ZNF530         | 0.649979325 | -0.621534266 | 0.009778498 | 0.098    |
| MIR4519        | 1.288916258 | 0.366158533  | 0.009804169 | 0.098186 |
| NFASC          | 0.69603298  | -0.522772428 | 0.009808978 | 0.098186 |
| SLC2A9         | 1.689015476 | 0.756182547  | 0.009818626 | 0.098195 |
| EP300          | 0.790970935 | -0.338303413 | 0.009821929 | 0.098195 |
| CALM2          | 1.25718348  | 0.33019522   | 0.009869889 | 0.098615 |
| PLEKHF1        | 0.661491312 | -0.596205887 | 0.009894335 | 0.098778 |
| MRPL33         | 1.281712351 | 0.358072521  | 0.009901969 | 0.098778 |
| RP11-661A12.7  | 0.599731452 | -0.73761146  | 0.009904351 | 0.098778 |
| AHSA2          | 0.791454707 | -0.337421303 | 0.009926733 | 0.098941 |
| CISD2          | 1.291548344 | 0.369101646  | 0.009948684 | 0.0991   |
| PER1           | 1.270321984 | 0.345194218  | 0.009957536 | 0.099127 |
| CCDC154        | 0.359007318 | -1.477914843 | 0.009967322 | 0.099165 |
| MAP2           | 0.74005802  | -0.434289713 | 0.009983329 | 0.099264 |
| FABP3          | 0.459696738 | -1.121245667 | 0.010016056 | 0.099528 |
| RP5-1139B12.2  | 0.460618208 | -1.118356653 | 0.010031292 | 0.099619 |
| MAGEE1         | 2.029160636 | 1.020883079  | 0.010053378 | 0.099778 |
| PSORS1C2       | 0.431310716 | -1.213200534 | 0.01010581  | 0.100238 |
| XXcos-LUCA11.4 | 0.619302574 | -0.691283653 | 0.010123153 | 0.100349 |
| TTC3           | 0.770961685 | -0.375268931 | 0.010130739 | 0.100364 |
| TSSK4          | 0.528639927 | -0.919642701 | 0.010136906 | 0.100364 |
| CTD-3065J16.6  | 0.534356371 | -0.904125876 | 0.010147542 | 0.100409 |
| NOTCH2         | 0.797245711 | -0.326903665 | 0.010163452 | 0.10047  |
| TUBGCP5        | 0.761417327 | -0.393240695 | 0.010166008 | 0.10047  |
| RFK            | 1.299321193 | 0.37775811   | 0.010184797 | 0.100563 |
| RBP5           | 0.55456043  | -0.850583416 | 0.010187666 | 0.100563 |
| GGA3           | 0.790196072 | -0.339717421 | 0.010224289 | 0.100863 |
| BIRC7          | 0.349190115 | -1.517915376 | 0.01024484  | 0.100948 |
| PLEKHG2        | 0.777706939 | -0.362701483 | 0.010245241 | 0.100948 |
| DEDD2          | 1.293872458 | 0.371695412  | 0.010254624 | 0.10098  |
| BTG2           | 1.266913059 | 0.341317524  | 0.010270724 | 0.101078 |
| LPCAT1         | 0.795459881 | -0.330138925 | 0.010327686 | 0.101577 |
| ROCK2          | 0.800517004 | -0.320996048 | 0.010342135 | 0.101606 |
| CYP3A5         | 0.343836088 | -1.540207121 | 0.010355974 | 0.101606 |
| PGRMC1         | 1.254118552 | 0.326673732  | 0.010356395 | 0.101606 |
| SLC25A20       | 1.513438855 | 0.597830389  | 0.010361234 | 0.101606 |
| TAOK2          | 0.797718878 | -0.326047675 | 0.010361625 | 0.101606 |
| RP11-138I1.4   | 1.276949585 | 0.352701568  | 0.010374474 | 0.101671 |



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| ME1             | 1. 281007792 | 0. 357279251  | 0. 010382746 | 0. 101691 |
| RP11-5C23. 2    | 0. 332675896 | -1. 587810757 | 0. 01042423  | 0. 102037 |
| RP11-110I1. 11  | 0. 41638307  | -1. 264016686 | 0. 01043926  | 0. 102123 |
| WNK1            | 0. 803223506 | -0. 316126606 | 0. 010497081 | 0. 102627 |
| IGSF9           | 0. 724571898 | -0. 464799242 | 0. 01054369  | 0. 102992 |
| RP11-66N24. 4   | 0. 459282246 | -1. 122547079 | 0. 010547014 | 0. 102992 |
| GET4            | 0. 618119791 | -0. 694041637 | 0. 010554693 | 0. 103006 |
| HIGD1A          | 1. 26749118  | 0. 341975708  | 0. 010572725 | 0. 10312  |
| DGUOK-AS1       | 1. 308565451 | 0. 387986086  | 0. 010582417 | 0. 103153 |
| SLC38A10        | 0. 795445565 | -0. 330164889 | 0. 010624903 | 0. 103476 |
| SLC11A1         | 2. 345174441 | 1. 229695239  | 0. 010628165 | 0. 103476 |
| STIP1           | 1. 250229975 | 0. 322193498  | 0. 010637565 | 0. 103506 |
| ISG15           | 1. 246954513 | 0. 318408839  | 0. 010653538 | 0. 1036   |
| RAC2            | 1. 352669437 | 0. 435809319  | 0. 010676772 | 0. 103764 |
| SPCS1           | 1. 25551609  | 0. 328280518  | 0. 010691845 | 0. 103849 |
| SECTM1          | 1. 363382399 | 0. 447190263  | 0. 010712084 | 0. 103984 |
| ALDH1L2         | 0. 580474987 | -0. 784694193 | 0. 010725513 | 0. 104053 |
| BAZ2A           | 0. 801693518 | -0. 318877285 | 0. 010736554 | 0. 104098 |
| SPG7            | 0. 795173496 | -0. 330658423 | 0. 010747252 | 0. 10414  |
| PSMD10          | 1. 314411754 | 0. 394417287  | 0. 010762085 | 0. 104222 |
| CHST14          | 1. 378560684 | 0. 463162776  | 0. 010771479 | 0. 104252 |
| APOLD1          | 1. 642794584 | 0. 716152096  | 0. 010789718 | 0. 104366 |
| CDNF            | 1. 666750824 | 0. 737038441  | 0. 010796203 | 0. 104368 |
| CCDC120         | 0. 727613627 | -0. 458755533 | 0. 01081146  | 0. 104453 |
| ZNF3            | 0. 781173113 | -0. 3562858   | 0. 010847569 | 0. 10474  |
| PCNT            | 0. 78877444  | -0. 342315293 | 0. 010864102 | 0. 104762 |
| SNX33           | 0. 755311363 | -0. 404856603 | 0. 01086786  | 0. 104762 |
| TBC1D9B         | 0. 796138755 | -0. 328908202 | 0. 010868966 | 0. 104762 |
| ISOC1           | 1. 283976537 | 0. 360618839  | 0. 01088129  | 0. 104819 |
| HEXDC           | 0. 765326926 | -0. 385851938 | 0. 010893503 | 0. 104875 |
| RP11-5407. 17   | 0. 58216202  | -0. 780507373 | 0. 010909871 | 0. 104919 |
| CTC-429P9. 2    | 0. 471042826 | -1. 086069864 | 0. 010910897 | 0. 104919 |
| GPT             | 0. 478311828 | -1. 063976627 | 0. 010934835 | 0. 105087 |
| SDC3            | 0. 793982877 | -0. 3328202   | 0. 010963997 | 0. 105306 |
| CDK1            | 1. 254394374 | 0. 326990994  | 0. 010972285 | 0. 105322 |
| SAMD1           | 1. 271590714 | 0. 346634387  | 0. 010978583 | 0. 105322 |
| USP49           | 0. 769405466 | -0. 378184016 | 0. 010987378 | 0. 105345 |
| NEK9            | 0. 796556565 | -0. 328151282 | 0. 011003213 | 0. 105388 |
| DNM1            | 0. 669585314 | -0. 578660209 | 0. 011004701 | 0. 105388 |
| hsa-mir-125a    | 1. 968164464 | 0. 97685078   | 0. 011025564 | 0. 105526 |
| SNED1           | 0. 745353208 | -0. 424003843 | 0. 011037173 | 0. 105575 |
| SLC13A4         | 0. 565130932 | -0. 823342938 | 0. 011052857 | 0. 105628 |
| PTOV1           | 0. 790036625 | -0. 340008559 | 0. 011055551 | 0. 105628 |
| CACNA2D2        | 0. 774681784 | -0. 368324278 | 0. 011062795 | 0. 105635 |
| RP11-334E6. 10  | 1. 306125777 | 0. 385293832  | 0. 011075505 | 0. 105695 |
| ZNF592          | 0. 772959982 | -0. 37153437  | 0. 011098654 | 0. 105854 |
| WDR24           | 0. 734971771 | -0. 444239256 | 0. 011127315 | 0. 106013 |
| MCM3AP          | 0. 79522206  | -0. 330570316 | 0. 011128218 | 0. 106013 |
| RP11-16N11. 2   | 2. 621899419 | 1. 390612342  | 0. 011142435 | 0. 106052 |
| KLHL7-AS1       | 2. 668409121 | 1. 415979878  | 0. 011145292 | 0. 106052 |
| CTD-2659N19. 10 | 1. 261361614 | 0. 334981935  | 0. 011175291 | 0. 106276 |
| ZGLP1           | 0. 488887907 | -1. 032424375 | 0. 011190132 | 0. 106355 |
| DLG4            | 0. 745814213 | -0. 423111804 | 0. 011250512 | 0. 106867 |
| UBE2B           | 1. 27429882  | 0. 349703626  | 0. 01127376  | 0. 107022 |

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|------------------|--------------|---------------|--------------|-----------|
| C16orf80         | 1. 266497055 | 0. 340843723  | 0. 011286761 | 0. 107022 |
| RALGPS1          | 0. 74621785  | -0. 422331224 | 0. 011291249 | 0. 107022 |
| COL4A4           | 0. 703445429 | -0. 507489586 | 0. 011293013 | 0. 107022 |
| RP5-884M6. 1     | 2. 227785117 | 1. 155610083  | 0. 01132355  | 0. 10725  |
| TRPM7            | 0. 790584851 | -0. 339007783 | 0. 01133692  | 0. 107314 |
| ALMS1            | 0. 765441576 | -0. 38563583  | 0. 011350564 | 0. 10735  |
| DGAT2            | 0. 591729376 | -0. 756990576 | 0. 011353842 | 0. 10735  |
| CFDP1            | 1. 2776565   | 0. 353500017  | 0. 011383218 | 0. 107566 |
| ZNF83            | 0. 780888552 | -0. 356811432 | 0. 011403489 | 0. 107695 |
| PTCHD2           | 0. 623514986 | -0. 681503859 | 0. 011416237 | 0. 107753 |
| XXbac-BPG157A10. | 2. 399139068 | 1. 262516787  | 0. 011473453 | 0. 10819  |
| USP24            | 0. 794025281 | -0. 332743152 | 0. 011475654 | 0. 10819  |
| MTF1             | 0. 780527065 | -0. 357479436 | 0. 01153472  | 0. 108684 |
| RP11-613C6. 2    | 1. 876863268 | 0. 908323552  | 0. 011563826 | 0. 108856 |
| ATRN             | 0. 789439724 | -0. 341098979 | 0. 011567431 | 0. 108856 |
| CTB-43P18. 1     | 1. 253723226 | 0. 326218892  | 0. 011572888 | 0. 108856 |
| ZNF512B          | 0. 772088355 | -0. 373162141 | 0. 01159717  | 0. 109021 |
| PIAS1            | 0. 764416078 | -0. 387569972 | 0. 011622932 | 0. 109201 |
| KCMF1            | 1. 263857084 | 0. 337833334  | 0. 011635236 | 0. 109254 |
| RIN3             | 0. 724665699 | -0. 464612487 | 0. 011698678 | 0. 109787 |
| NPM1             | 1. 264502879 | 0. 338570322  | 0. 011710175 | 0. 10981  |
| GPRC5C           | 1. 297531685 | 0. 375769768  | 0. 011714608 | 0. 10981  |
| TAF5             | 1. 328542879 | 0. 409844792  | 0. 011740492 | 0. 109903 |
| CTRC             | 2. 664917306 | 1. 414090766  | 0. 011745922 | 0. 109903 |
| LSM1             | 1. 270955547 | 0. 345913572  | 0. 011751335 | 0. 109903 |
| SUB1             | 1. 274406162 | 0. 349825147  | 0. 011751393 | 0. 109903 |
| CATSPER2         | 0. 434789225 | -1. 201611908 | 0. 011764889 | 0. 109967 |
| TRPM5            | 2. 750432026 | 1. 459658249  | 0. 011771667 | 0. 109967 |
| GPN3             | 1. 280165246 | 0. 356330048  | 0. 011786828 | 0. 110043 |
| FAM32A           | 1. 251794607 | 0. 323997866  | 0. 011793242 | 0. 110043 |
| MRPL32           | 1. 359532606 | 0. 443110752  | 0. 01181008  | 0. 110138 |
| SLC12A4          | 0. 790264164 | -0. 339593107 | 0. 011818645 | 0. 110155 |
| ADCY9            | 0. 757880035 | -0. 399958594 | 0. 011847497 | 0. 110361 |
| DNAJC16          | 0. 765828909 | -0. 384905975 | 0. 011862889 | 0. 110421 |
| TMPRSS6          | 0. 539237899 | -0. 891006198 | 0. 011867409 | 0. 110421 |
| CACNG8           | 1. 741803528 | 0. 8005819    | 0. 011895396 | 0. 110618 |
| ANKRD26          | 0. 660072459 | -0. 599303692 | 0. 011983787 | 0. 111326 |
| ODC1             | 1. 258762384 | 0. 332005972  | 0. 011988466 | 0. 111326 |
| RPA2             | 1. 286741411 | 0. 363722153  | 0. 011991861 | 0. 111326 |
| CTC-444N24. 11   | 0. 737914631 | -0. 438474174 | 0. 012005208 | 0. 111387 |
| CTC-462L7. 1     | 0. 542121567 | -0. 883311694 | 0. 012022147 | 0. 111481 |
| CLASP1           | 0. 790561138 | -0. 339051057 | 0. 012046343 | 0. 111642 |
| CABP1            | 0. 539644248 | -0. 88991945  | 0. 012055383 | 0. 111662 |
| NMU              | 1. 254570916 | 0. 327194023  | 0. 012067083 | 0. 111672 |
| PSMC4            | 1. 24545077  | 0. 316667996  | 0. 012070044 | 0. 111672 |
| POLR1D           | 1. 246396722 | 0. 317763345  | 0. 012082562 | 0. 111713 |
| AQP3             | 1. 294796326 | 0. 372725177  | 0. 012088102 | 0. 111713 |
| CCDC71           | 0. 763627527 | -0. 389058985 | 0. 012115417 | 0. 111844 |
| GUCA1B           | 0. 608481839 | -0. 716713891 | 0. 012120009 | 0. 111844 |
| DPM2             | 1. 260113921 | 0. 333554167  | 0. 012122778 | 0. 111844 |
| C3orf35          | 0. 532574998 | -0. 908943392 | 0. 012189969 | 0. 1124   |
| RSPH10B          | 1. 476582917 | 0. 562262372  | 0. 012221763 | 0. 11263  |
| RRNAD1           | 1. 298049512 | 0. 376345414  | 0. 012233369 | 0. 112648 |
| DNMT3A           | 0. 733494682 | -0. 447141589 | 0. 012237444 | 0. 112648 |

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| MCTP1         | 0.492111966 | -1.022941498 | 0.0122467   | 0.11267  |
| ARL6IP6       | 1.290584743 | 0.368024876  | 0.012274399 | 0.112861 |
| MRPS18B       | 1.248706465 | 0.32043438   | 0.012344372 | 0.113415 |
| AC093110.3    | 0.397470652 | -1.331079756 | 0.012352957 | 0.113415 |
| BRD1          | 0.778316085 | -0.361571922 | 0.012355412 | 0.113415 |
| NLGN3         | 0.619745636 | -0.690251888 | 0.012373335 | 0.113516 |
| MTTP          | 2.196225759 | 1.135026363  | 0.012397834 | 0.113674 |
| ADAM11        | 0.753505515 | -0.408310025 | 0.012404453 | 0.113674 |
| HDAC6         | 0.79240919  | -0.335682482 | 0.012421805 | 0.11373  |
| KDM4A         | 0.790564437 | -0.339045037 | 0.012424474 | 0.11373  |
| SDCBP         | 1.245842002 | 0.317121116  | 0.012446792 | 0.113871 |
| TGDS          | 1.331122662 | 0.412643521  | 0.012471371 | 0.114032 |
| PIKFYVE       | 0.785853881 | -0.347667007 | 0.012574601 | 0.114912 |
| ARHGEF12      | 0.807392607 | -0.308657719 | 0.012605967 | 0.115134 |
| DHX35         | 0.734506859 | -0.445152132 | 0.012618441 | 0.115184 |
| LTBP4         | 0.799601704 | -0.322646548 | 0.012682875 | 0.115707 |
| INPP4B        | 0.780739437 | -0.35708695  | 0.012703713 | 0.115833 |
| SH3D21        | 0.758452339 | -0.39886957  | 0.012719435 | 0.115881 |
| ZNF507        | 0.783045667 | -0.352831648 | 0.012723186 | 0.115881 |
| SNRPA         | 1.242016987 | 0.312684906  | 0.012751392 | 0.116074 |
| THAP2         | 1.431555048 | 0.517583147  | 0.01279398  | 0.116397 |
| DNAJB11       | 1.246102157 | 0.317422348  | 0.012817175 | 0.116539 |
| SPRN          | 0.618011798 | -0.694293716 | 0.012823885 | 0.116539 |
| KANSL1        | 0.793729486 | -0.333280695 | 0.012841701 | 0.116637 |
| SMG5          | 0.801792874 | -0.318698499 | 0.012884098 | 0.116957 |
| HAGHL         | 0.781856899 | -0.355023516 | 0.012934384 | 0.117345 |
| ZNF283        | 0.648346517 | -0.625163009 | 0.012942272 | 0.117345 |
| ASNA1         | 1.249014718 | 0.320790478  | 0.0129484   | 0.117345 |
| LCAT          | 0.696552728 | -0.521695527 | 0.012966989 | 0.117449 |
| PRCD          | 3.02957161  | 1.599113807  | 0.013003896 | 0.117718 |
| DGKZ          | 0.760837707 | -0.394339347 | 0.013035985 | 0.117943 |
| USH1G         | 0.664239788 | -0.590223951 | 0.013051424 | 0.118018 |
| AKT2          | 0.801544227 | -0.319145968 | 0.013063285 | 0.11806  |
| CRAMP1L       | 0.738613667 | -0.437108136 | 0.013072519 | 0.118078 |
| SMAD7         | 0.712365432 | -0.489310584 | 0.013103349 | 0.118291 |
| CALCOCO1      | 0.780942159 | -0.356712397 | 0.013118034 | 0.118333 |
| RP11-528I4.2  | 2.942766942 | 1.55717329   | 0.0131224   | 0.118333 |
| BNIP1         | 1.32442999  | 0.405371585  | 0.013135652 | 0.118381 |
| LCTL          | 1.467775575 | 0.553631395  | 0.013142156 | 0.118381 |
| SEMA4G        | 0.789999543 | -0.340076276 | 0.013162662 | 0.1185   |
| PRPF3         | 0.732560989 | -0.44897922  | 0.013170167 | 0.118503 |
| RP11-727F15.9 | 1.311471688 | 0.391186663  | 0.013182019 | 0.118544 |
| GSE1          | 0.804961888 | -0.313007616 | 0.013191725 | 0.118566 |
| CSTB          | 1.246624233 | 0.318026663  | 0.013217306 | 0.118731 |
| SUV420H2      | 0.748905341 | -0.417144716 | 0.013233895 | 0.118803 |
| EIF4A1        | 0.66335199  | -0.592153494 | 0.01323986  | 0.118803 |
| FMNL3         | 0.746445911 | -0.421890371 | 0.013274944 | 0.119053 |
| FAM117A       | 1.324747774 | 0.405717703  | 0.013283932 | 0.119068 |
| ACACA         | 0.806958533 | -0.309433555 | 0.013325159 | 0.119337 |
| NOTCH4        | 2.502457515 | 1.323345576  | 0.013328499 | 0.119337 |
| RP11-658F2.8  | 0.71218499  | -0.489676064 | 0.013342795 | 0.1194   |
| SPATA13       | 0.777564423 | -0.362965885 | 0.013359985 | 0.119465 |
| ARHGAP31-AS1  | 2.500865269 | 1.322427336  | 0.013364682 | 0.119465 |
| KLHL36        | 0.803882853 | -0.314942816 | 0.013378174 | 0.11952  |

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| WDR37         | 0.75859397  | -0.398600191 | 0.013387411 | 0.119538 |
| THPO          | 2.480369737 | 1.310555192  | 0.013399098 | 0.119577 |
| HSPB8         | 1.399834427 | 0.485256194  | 0.013416317 | 0.119665 |
| PBX3          | 1.371308878 | 0.455553565  | 0.013481226 | 0.120159 |
| ULK3          | 0.794277733 | -0.332284536 | 0.013489203 | 0.120159 |
| CBX4          | 1.258106501 | 0.331254054  | 0.013493703 | 0.120159 |
| ST3GAL6       | 0.777785076 | -0.362556543 | 0.013521413 | 0.120261 |
| CD163L1       | 1.44144985  | 0.527520645  | 0.013524242 | 0.120261 |
| UBE2C         | 1.274690011 | 0.350146444  | 0.013527349 | 0.120261 |
| UBR3          | 0.785619183 | -0.348097938 | 0.013534523 | 0.120261 |
| AMH           | 0.750092561 | -0.41485946  | 0.013572953 | 0.120488 |
| FBRSL1        | 0.792060945 | -0.336316653 | 0.013575612 | 0.120488 |
| MEAF6         | 1.273241523 | 0.348506112  | 0.013589804 | 0.120488 |
| NDUFA12       | 1.287722249 | 0.364821449  | 0.013591002 | 0.120488 |
| TRABD2A       | 1.324001153 | 0.404904378  | 0.013596786 | 0.120488 |
| NRDE2         | 0.755992916 | -0.403555378 | 0.013609639 | 0.120536 |
| RP11-253E3.3  | 0.673289796 | -0.570700495 | 0.013625116 | 0.120583 |
| DOT1L         | 0.797813351 | -0.325876829 | 0.01362961  | 0.120583 |
| C20orf96      | 0.765248163 | -0.386000417 | 0.013650432 | 0.120631 |
| MIF4GD        | 1.283579513 | 0.360172668  | 0.013653664 | 0.120631 |
| AC144831.1    | 3.205583851 | 1.680587147  | 0.013657169 | 0.120631 |
| ARID4B        | 0.788870459 | -0.342139681 | 0.013670592 | 0.120684 |
| CMTM3         | 1.301668157 | 0.3803617    | 0.013695399 | 0.120838 |
| NPR3          | 0.429571767 | -1.219028917 | 0.013710482 | 0.120884 |
| RPE65         | 0.693146648 | -0.528767481 | 0.013715394 | 0.120884 |
| RP11-503E24.2 | 0.370922727 | -1.430809426 | 0.01372951  | 0.120944 |
| CCDC150       | 0.758391825 | -0.398984683 | 0.013742106 | 0.12099  |
| CTTN          | 0.799599251 | -0.322650975 | 0.013764566 | 0.121098 |
| RP11-268J15.5 | 0.683723155 | -0.548515811 | 0.013769202 | 0.121098 |
| HOOK2         | 1.242099146 | 0.312780336  | 0.013833165 | 0.121569 |
| RP6-42F4.1    | 0.631547513 | -0.663036819 | 0.013843648 | 0.121569 |
| PCGF3         | 0.802705999 | -0.317056416 | 0.013847748 | 0.121569 |
| ARHGAP10      | 1.311582155 | 0.391308178  | 0.01385793  | 0.121569 |
| RPL10A        | 0.770629206 | -0.375891231 | 0.013859872 | 0.121569 |
| ACSS2         | 0.786232914 | -0.346971334 | 0.013881327 | 0.121639 |
| KRT80         | 1.555617825 | 0.637487671  | 0.013882756 | 0.121639 |
| CTD-2647L4.1  | 0.442090947 | -1.177584904 | 0.013938213 | 0.12206  |
| RP11-293P20.2 | 0.444306384 | -1.170373223 | 0.013950112 | 0.122099 |
| DDX10         | 1.372325089 | 0.456622281  | 0.014001516 | 0.122412 |
| ZFH3          | 0.767344921 | -0.382052881 | 0.014011891 | 0.122412 |
| CCDC13        | 0.620389998 | -0.688752667 | 0.01401229  | 0.122412 |
| HSP90AB1      | 1.252912129 | 0.325285237  | 0.014015762 | 0.122412 |
| TSPAN31       | 1.240496072 | 0.310917167  | 0.014037887 | 0.12254  |
| EML6          | 0.741266054 | -0.431936649 | 0.01405588  | 0.122631 |
| RP1-191J18.66 | 1.704273145 | 0.769156576  | 0.014072698 | 0.122713 |
| TNXB          | 0.687896863 | -0.539735817 | 0.014086367 | 0.122735 |
| CHCHD2        | 1.244282069 | 0.31531357   | 0.014090253 | 0.122735 |
| TEP1          | 0.781870321 | -0.354998749 | 0.014134084 | 0.123051 |
| ZNF267        | 0.754112869 | -0.407147626 | 0.014163787 | 0.123245 |
| RP6-114E22.1  | 2.538333282 | 1.343881507  | 0.014208888 | 0.123571 |
| TLN2          | 0.695802973 | -0.523249253 | 0.014225632 | 0.123589 |
| CLOCK         | 0.798410689 | -0.32479706  | 0.014226067 | 0.123589 |
| TMEM251       | 1.570852559 | 0.651547775  | 0.014239743 | 0.123643 |
| PADI2         | 0.680601642 | -0.555117464 | 0.014254357 | 0.12365  |

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| PTPRB         | 0.726504193 | -0.460956971 | 0.014261445 | 0.12365  |
| TICRR         | 0.794251467 | -0.332332245 | 0.014263294 | 0.12365  |
| FOXH1         | 0.787979152 | -0.343770635 | 0.014279911 | 0.123687 |
| RP11-819C21.1 | 0.366725317 | -1.447228229 | 0.014291913 | 0.123687 |
| TRIM45        | 0.665959534 | -0.586493578 | 0.014292569 | 0.123687 |
| CCDC39        | 0.699916261 | -0.514745769 | 0.014297706 | 0.123687 |
| PEX5L         | 0.550989276 | -0.859903856 | 0.01430897  | 0.123719 |
| NADSYN1       | 0.792988253 | -0.334628601 | 0.014325762 | 0.123749 |
| GTF2E2        | 1.245066963 | 0.316223337  | 0.014334451 | 0.123749 |
| SRSF3         | 1.240998491 | 0.311501361  | 0.014337752 | 0.123749 |
| CAMLG         | 1.268783255 | 0.343445636  | 0.014346013 | 0.123749 |
| INO80D        | 0.759004082 | -0.39782045  | 0.014350253 | 0.123749 |
| MAP2K3        | 1.239106071 | 0.309299692  | 0.014391628 | 0.123983 |
| CENPT         | 0.794837232 | -0.331268642 | 0.014392487 | 0.123983 |
| ATG2B         | 0.754196183 | -0.406988245 | 0.014405279 | 0.124028 |
| HK2           | 1.28094264  | 0.357205874  | 0.014483161 | 0.124569 |
| GJB3          | 1.320800896 | 0.401413004  | 0.014483312 | 0.124569 |
| SAP18         | 1.247774074 | 0.319356738  | 0.014526526 | 0.124814 |
| FAM102A       | 0.789711166 | -0.340603005 | 0.014527101 | 0.124814 |
| LINC00937     | 0.529270919 | -0.917921709 | 0.014600276 | 0.125377 |
| FBX048        | 1.615593744 | 0.692064465  | 0.01463035  | 0.12557  |
| CTD-2369P2.5  | 1.290561469 | 0.367998858  | 0.014638032 | 0.12557  |
| PAIP2B        | 0.746629397 | -0.421535783 | 0.014654566 | 0.125646 |
| CD226         | 0.423860232 | -1.238339481 | 0.01467972  | 0.125731 |
| HPRT1         | 1.257174089 | 0.330184443  | 0.014679839 | 0.125731 |
| CTD-2545M3.8  | 0.419918128 | -1.251820022 | 0.014687717 | 0.125732 |
| TSEN15        | 1.298912937 | 0.377304733  | 0.014714108 | 0.125892 |
| TNKS1BP1      | 0.795487509 | -0.330088818 | 0.014767822 | 0.126173 |
| ACOT7         | 1.249009522 | 0.320784475  | 0.014777131 | 0.126173 |
| TOB1-AS1      | 2.108039328 | 1.075901782  | 0.0147775   | 0.126173 |
| ZNF142        | 0.78172293  | -0.355270738 | 0.014777749 | 0.126173 |
| LDOC1L        | 0.79006292  | -0.339960543 | 0.014809443 | 0.126378 |
| VPS9D1        | 0.764461741 | -0.387483794 | 0.014825328 | 0.126448 |
| CBX6          | 0.80437264  | -0.314064084 | 0.014854787 | 0.1266   |
| EGFR          | 0.804428079 | -0.313964654 | 0.014858637 | 0.1266   |
| CHCHD3        | 1.272868019 | 0.348082837  | 0.014885935 | 0.126767 |
| ADRA2B        | 1.824652719 | 0.867621906  | 0.01489707  | 0.126795 |
| BCR           | 0.785931306 | -0.347524875 | 0.01493362  | 0.127041 |
| JMJD1C        | 0.803406384 | -0.31579817  | 0.014968434 | 0.127269 |
| AC018766.5    | 0.721570327 | -0.470788083 | 0.01498274  | 0.127269 |
| PSEN2         | 0.735758659 | -0.44269548  | 0.014983774 | 0.127269 |
| RP4-798A10.2  | 0.529189329 | -0.918144124 | 0.015024601 | 0.127495 |
| ELP4          | 1.329572971 | 0.410962959  | 0.015026043 | 0.127495 |
| UBE2Q1-AS1    | 1.37266388  | 0.4569784    | 0.015033775 | 0.127495 |
| SBSPON        | 0.488276048 | -1.034231085 | 0.015096277 | 0.127959 |
| ASIC4         | 1.935291053 | 0.952550553  | 0.015135587 | 0.128226 |
| TXLNA         | 0.801057196 | -0.320022839 | 0.015171405 | 0.128445 |
| ATP9A         | 0.770110211 | -0.37686317  | 0.015177161 | 0.128445 |
| CAPNS1        | 1.242865272 | 0.313669915  | 0.01520214  | 0.12859  |
| RP11-531A24.5 | 0.505098516 | -0.985363291 | 0.015231045 | 0.128704 |
| SMYD4         | 0.758006889 | -0.399717135 | 0.015231336 | 0.128704 |
| SKI           | 0.797218894 | -0.326952192 | 0.015256262 | 0.128822 |
| TOMM5         | 0.516662281 | -0.952706532 | 0.015266105 | 0.128822 |
| DGUOK         | 1.245678561 | 0.316931839  | 0.015272367 | 0.128822 |

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| FAM83H           | 0.802018131 | -0.318293243 | 0.015276773 | 0.128822 |
| HERC2            | 0.806119844 | -0.310933758 | 0.0153685   | 0.129529 |
| PSMG2            | 1.262501723 | 0.336285356  | 0.015395301 | 0.129688 |
| LRIG2            | 0.767925196 | -0.380962311 | 0.01541518  | 0.129789 |
| MLPH             | 0.780694101 | -0.357170726 | 0.015460214 | 0.130101 |
| SPTAN1           | 0.807257961 | -0.308898331 | 0.015470431 | 0.13011  |
| NSD1             | 0.806821467 | -0.309678625 | 0.01547962  | 0.13011  |
| DNAJC9           | 0.715840222 | -0.482290486 | 0.015485169 | 0.13011  |
| CTD-3195I5.1     | 0.71823833  | -0.477465449 | 0.015516332 | 0.130305 |
| IRX3             | 1.653228369 | 0.725286026  | 0.015529238 | 0.130347 |
| RNF139-AS1       | 1.49961179  | 0.584589073  | 0.015575088 | 0.130547 |
| EGLN3            | 1.433349747 | 0.51939068   | 0.015576681 | 0.130547 |
| BMF              | 1.561573724 | 0.643000682  | 0.015576964 | 0.130547 |
| AFF1             | 0.791427109 | -0.337471612 | 0.015601209 | 0.130683 |
| NOM1             | 0.790795214 | -0.338623956 | 0.015623704 | 0.130805 |
| FOPNL            | 1.243406574 | 0.314298111  | 0.0156663   | 0.131094 |
| EXOSC5           | 1.28672029  | 0.363698472  | 0.015703714 | 0.13134  |
| FAM72D           | 1.374499958 | 0.458906863  | 0.015725613 | 0.131351 |
| LRRC3DN          | 0.697546533 | -0.519638634 | 0.015729249 | 0.131351 |
| NAPSA            | 0.467315259 | -1.097531949 | 0.015738628 | 0.131351 |
| RP11-317G6.1     | 0.482802235 | -1.05049574  | 0.015744869 | 0.131351 |
| RDH5             | 0.413384426 | -1.274444059 | 0.015745089 | 0.131351 |
| COL7A1           | 0.753452115 | -0.40841227  | 0.015777208 | 0.131552 |
| DCK              | 1.28309204  | 0.359624663  | 0.015797778 | 0.131656 |
| PRKCG            | 0.720415434 | -0.473099005 | 0.015816951 | 0.131749 |
| ASTL             | 3.466319974 | 1.793404835  | 0.015859002 | 0.132032 |
| C11orf58         | 1.249639655 | 0.32151214   | 0.015925153 | 0.132515 |
| AP001816.1       | 1.333796572 | 0.415538647  | 0.015978992 | 0.132838 |
| NUDCD2           | 1.270916615 | 0.345869378  | 0.015982998 | 0.132838 |
| NME1             | 1.240397848 | 0.310802929  | 0.015988243 | 0.132838 |
| TCTEX1D4         | 0.643410562 | -0.636188475 | 0.016000952 | 0.132876 |
| SNPH             | 0.745543543 | -0.42363548  | 0.016045889 | 0.133182 |
| GLI4             | 0.76089696  | -0.394226996 | 0.016075381 | 0.133304 |
| ANKRD11          | 0.809290521 | -0.305270397 | 0.016076918 | 0.133304 |
| HYI              | 0.742110074 | -0.430294904 | 0.016090762 | 0.133351 |
| KRT8             | 1.232731245 | 0.301858304  | 0.016107704 | 0.13339  |
| UHRF1BP1         | 0.796846606 | -0.327626065 | 0.016111746 | 0.13339  |
| UNC119B          | 0.804824804 | -0.313253327 | 0.016135982 | 0.133523 |
| NR2C2            | 0.783803748 | -0.351435623 | 0.016151299 | 0.133543 |
| PRPF38B          | 0.807877033 | -0.307792377 | 0.016154704 | 0.133543 |
| UBE2T            | 1.244818699 | 0.315935637  | 0.016181617 | 0.133698 |
| AC114730.11      | 0.653005625 | -0.614832676 | 0.016227899 | 0.134013 |
| AC011558.5       | 1.268528632 | 0.343156083  | 0.016248949 | 0.134119 |
| B3GNT4           | 1.245784263 | 0.317054254  | 0.016260496 | 0.134147 |
| GPM6B            | 0.489813818 | -1.029694622 | 0.016308289 | 0.134474 |
| CTD-2651B20.1    | 0.457637167 | -1.127723868 | 0.016321885 | 0.134498 |
| MGME1            | 1.25876809  | 0.332012511  | 0.016327721 | 0.134498 |
| GRIN2C           | 0.726356791 | -0.461249711 | 0.016348015 | 0.13456  |
| GCSAM            | 0.54037206  | -0.887975013 | 0.016351633 | 0.13456  |
| XXbac-BPG299F13. | 2.356434465 | 1.236605559  | 0.016371327 | 0.134654 |
| UCHL5            | 1.274093621 | 0.349471291  | 0.01645932  | 0.135209 |
| GYG1             | 1.326703711 | 0.407846214  | 0.016463708 | 0.135209 |
| PIM3             | 1.233042596 | 0.302222639  | 0.016475918 | 0.135209 |
| FAM136A          | 1.250744813 | 0.322787469  | 0.016476858 | 0.135209 |

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|---------------|-------------|--------------|-------------|----------|
| ADAMTS13      | 0.735491092 | -0.443220226 | 0.016481926 | 0.135209 |
| RP11-157P1.5  | 0.683286684 | -0.549437083 | 0.016488264 | 0.135209 |
| COL4A3        | 0.660487709 | -0.59839638  | 0.016506998 | 0.135295 |
| ABHD4         | 1.309272211 | 0.38876508   | 0.016539977 | 0.135497 |
| KIAA0753      | 0.761593674 | -0.392906601 | 0.016606169 | 0.135853 |
| PGAP3         | 0.729334909 | -0.455346645 | 0.016606929 | 0.135853 |
| AASS          | 0.694266247 | -0.526439062 | 0.016616308 | 0.135853 |
| CARKD         | 0.787388485 | -0.34485248  | 0.016617623 | 0.135853 |
| AC007383.3    | 1.936868715 | 0.953726168  | 0.016624846 | 0.135853 |
| FEN1          | 1.240215699 | 0.310591057  | 0.016638627 | 0.135897 |
| PPP1R32       | 0.656446088 | -0.607251564 | 0.016690238 | 0.136251 |
| RP11-98D18.15 | 1.346807979 | 0.429544173  | 0.016718431 | 0.136413 |
| CLDN3         | 1.291404115 | 0.368940529  | 0.016730411 | 0.136429 |
| SLC25A34      | 0.495788239 | -1.012204048 | 0.016737    | 0.136429 |
| ZNF462        | 0.780962224 | -0.35667533  | 0.016750465 | 0.136454 |
| FAM127B       | 1.247946492 | 0.319556078  | 0.016756835 | 0.136454 |
| FADS3         | 0.792192158 | -0.336077675 | 0.016771884 | 0.13646  |
| USP39         | 1.237376554 | 0.307284603  | 0.016774545 | 0.13646  |
| MYL9          | 1.258056354 | 0.331196548  | 0.016782529 | 0.13646  |
| ARID2         | 0.778802137 | -0.360671253 | 0.016802444 | 0.136495 |
| BACE1         | 0.771987089 | -0.373351375 | 0.016804968 | 0.136495 |
| MAGOH         | 1.489433019 | 0.574763246  | 0.016812227 | 0.136495 |
| SNRPB         | 1.23231383  | 0.30136971   | 0.016823775 | 0.136495 |
| PRDX3         | 1.234509051 | 0.303937414  | 0.01682844  | 0.136495 |
| CEP192        | 0.790120875 | -0.339854716 | 0.016842455 | 0.136541 |
| ALG11         | 0.670416609 | -0.576870205 | 0.016870153 | 0.136666 |
| MTMR9         | 0.779565257 | -0.3592583   | 0.016874642 | 0.136666 |
| UBR5          | 0.813328999 | -0.298089041 | 0.016924175 | 0.136936 |
| POLR3A        | 0.797169756 | -0.327041118 | 0.016924648 | 0.136936 |
| KIAA1958      | 0.769164196 | -0.378636487 | 0.016941868 | 0.137007 |
| HHEX          | 1.355323807 | 0.438637574  | 0.01696523  | 0.137129 |
| PCBD1         | 1.235300525 | 0.304862064  | 0.017045688 | 0.137711 |
| SS18L2        | 1.33660353  | 0.41857159   | 0.017059227 | 0.137752 |
| LRCH4         | 0.790232623 | -0.339650688 | 0.017079333 | 0.137759 |
| MSL2          | 0.786336277 | -0.346781681 | 0.017082022 | 0.137759 |
| RNF31         | 0.770569813 | -0.376002426 | 0.017085302 | 0.137759 |
| IZUM04        | 0.568522325 | -0.814711093 | 0.017104929 | 0.13785  |
| SHANK3        | 0.792210797 | -0.336043731 | 0.017135985 | 0.137991 |
| NAT8L         | 0.757108651 | -0.401427742 | 0.017139293 | 0.137991 |
| CYP46A1       | 0.476300786 | -1.070055166 | 0.017233375 | 0.13868  |
| FXYD5         | 1.251930818 | 0.324154841  | 0.017245388 | 0.138708 |
| TTI2          | 1.252656862 | 0.324991274  | 0.017287371 | 0.138978 |
| AC019349.5    | 2.197919715 | 1.136138689  | 0.017301551 | 0.139024 |
| ZNF407        | 0.685222425 | -0.545355727 | 0.017327778 | 0.139074 |
| L1CAM         | 0.782106316 | -0.354563361 | 0.017329211 | 0.139074 |
| DPY19L3       | 0.75026387  | -0.41453001  | 0.017333309 | 0.139074 |
| MON2          | 0.793257729 | -0.334138422 | 0.017358454 | 0.139123 |
| FAM168A       | 0.805448279 | -0.312136145 | 0.017359084 | 0.139123 |
| TSNAXIP1      | 0.751061641 | -0.412996777 | 0.017368043 | 0.139123 |
| CTD-2135D7.2  | 0.548812787 | -0.865613999 | 0.017373353 | 0.139123 |
| CD99L2        | 0.721307079 | -0.471314512 | 0.017393479 | 0.139216 |
| AMN           | 0.781226478 | -0.356187248 | 0.017404627 | 0.139237 |
| NUDC          | 1.232419266 | 0.301493141  | 0.017426868 | 0.139318 |
| ARHGEF18      | 0.764648098 | -0.387132144 | 0.017431712 | 0.139318 |

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|----------------|--------------|---------------|--------------|-----------|
| NSL1           | 1. 277916538 | 0. 353793615  | 0. 017481125 | 0. 139644 |
| RPRD2          | 0. 781315955 | -0. 356022019 | 0. 017492869 | 0. 13967  |
| ERBB3          | 0. 790808532 | -0. 338599659 | 0. 01751051  | 0. 139681 |
| RP11-554E23. 4 | 1. 409955572 | 0. 495649704  | 0. 017511302 | 0. 139681 |
| CACNB4         | 0. 713621759 | -0. 48676849  | 0. 017525033 | 0. 139722 |
| NUFIP1         | 1. 726838918 | 0. 788133512  | 0. 017564627 | 0. 13997  |
| ADM            | 1. 240818424 | 0. 311292013  | 0. 01763752  | 0. 140483 |
| TXNL1          | 1. 242129312 | 0. 312815374  | 0. 017658156 | 0. 140514 |
| ZKSCAN1        | 0. 810523135 | -0. 30307473  | 0. 017658586 | 0. 140514 |
| RP11-800A3. 4  | 0. 607432585 | -0. 719203794 | 0. 017709259 | 0. 140787 |
| CTD-3126B10. 1 | 0. 754235006 | -0. 406913984 | 0. 01771019  | 0. 140787 |
| KLHDC8B        | 1. 373981885 | 0. 458362984  | 0. 017738264 | 0. 140792 |
| RP11-165J3. 6  | 2. 426644374 | 1. 278962696  | 0. 017739854 | 0. 140792 |
| ANKZF1         | 0. 798313787 | -0. 324972168 | 0. 01774098  | 0. 140792 |
| RP4-607I7. 1   | 2. 34064339  | 1. 226905148  | 0. 017748849 | 0. 140792 |
| CYTH1          | 0. 79565016  | -0. 329793864 | 0. 017766199 | 0. 140792 |
| RERE           | 0. 793146143 | -0. 334341377 | 0. 017767407 | 0. 140792 |
| ASPM           | 0. 813580471 | -0. 297643046 | 0. 017770903 | 0. 140792 |
| RP11-326I11. 3 | 2. 412642363 | 1. 270614074  | 0. 01780277  | 0. 140864 |
| FUCA2          | 1. 247290717 | 0. 318797766  | 0. 017804784 | 0. 140864 |
| RP5-966M1. 6   | 0. 464566506 | -1. 106042951 | 0. 017811323 | 0. 140864 |
| NFKBIE         | 1. 314506106 | 0. 394520843  | 0. 017823177 | 0. 140864 |
| ZNF281         | 0. 793884802 | -0. 332998417 | 0. 017832409 | 0. 140864 |
| GMNC           | 2. 461922989 | 1. 299785634  | 0. 017838105 | 0. 140864 |
| MAPK12         | 0. 80968418  | -0. 304568806 | 0. 01784025  | 0. 140864 |
| CBL            | 0. 812620117 | -0. 299347015 | 0. 017851427 | 0. 140884 |
| RP11-345P4. 9  | 1. 641308858 | 0. 714846748  | 0. 017874826 | 0. 141001 |
| HEXIM1         | 1. 233105448 | 0. 302296176  | 0. 017884467 | 0. 141008 |
| KIF16B         | 0. 742657937 | -0. 429230227 | 0. 017892967 | 0. 141008 |
| RP1-90J20. 8   | 2. 230517156 | 1. 157378245  | 0. 017911578 | 0. 141057 |
| NOL6           | 0. 796629263 | -0. 32801962  | 0. 017927938 | 0. 141057 |
| GREB1L         | 0. 744968154 | -0. 424749341 | 0. 017943744 | 0. 141057 |
| P4HA2-AS1      | 1. 432348617 | 0. 51838267   | 0. 017946302 | 0. 141057 |
| H2AFZ          | 1. 24535948  | 0. 316562245  | 0. 017949739 | 0. 141057 |
| TRRAP          | 0. 816820943 | -0. 291908238 | 0. 017950851 | 0. 141057 |
| MRPL4          | 1. 229847833 | 0. 298479825  | 0. 017962841 | 0. 141084 |
| EME2           | 0. 803424406 | -0. 315765807 | 0. 017994281 | 0. 141263 |
| RBM4B          | 0. 74882203  | -0. 417305216 | 0. 018009064 | 0. 141311 |
| CHD6           | 0. 797239403 | -0. 326915078 | 0. 018053119 | 0. 141554 |
| SOD1           | 1. 237477993 | 0. 307402869  | 0. 01805968  | 0. 141554 |
| AC106782. 20   | 2. 851578128 | 1. 511760561  | 0. 018069756 | 0. 141554 |
| MEA1           | 1. 236291744 | 0. 306019235  | 0. 018074525 | 0. 141554 |
| TAF1           | 0. 733100038 | -0. 447918015 | 0. 018135606 | 0. 141897 |
| RBMXL1         | 1. 321128332 | 0. 401770614  | 0. 018135769 | 0. 141897 |
| NUP37          | 1. 245080908 | 0. 316239494  | 0. 018148243 | 0. 141927 |
| PSMA4          | 1. 235835074 | 0. 305486224  | 0. 018168575 | 0. 142018 |
| DUSP10         | 1. 536226453 | 0. 619390897  | 0. 018188467 | 0. 142043 |
| AC104655. 2    | 1. 321503146 | 0. 40217986   | 0. 018189067 | 0. 142043 |
| NHS            | 0. 717538842 | -0. 478871166 | 0. 018206627 | 0. 142112 |
| EBNA1BP2       | 1. 230655038 | 0. 29942642   | 0. 018241851 | 0. 142319 |
| MPLKIP         | 1. 274023553 | 0. 34939195   | 0. 018290665 | 0. 142632 |
| ZNF791         | 0. 779534414 | -0. 35931538  | 0. 018312047 | 0. 142731 |
| AP000350. 4    | 1. 249231646 | 0. 321041022  | 0. 018333352 | 0. 142829 |
| MLLT6          | 0. 81297969  | -0. 298708783 | 0. 018348451 | 0. 142862 |



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| GAB2          | 0.740210368 | -0.433992751 | 0.018354956 | 0.142862 |
| KCNK3         | 1.716715478 | 0.779650952  | 0.018384557 | 0.143024 |
| PAIP2         | 1.231728535 | 0.300684331  | 0.018394569 | 0.143034 |
| FAM72B        | 1.458323485 | 0.544310774  | 0.018412032 | 0.143089 |
| BLOC1S4       | 1.341152246 | 0.423473019  | 0.018419103 | 0.143089 |
| ARMC6         | 1.261243546 | 0.334846886  | 0.01844317  | 0.143208 |
| CCT4          | 1.247924303 | 0.319530426  | 0.018458427 | 0.143258 |
| AJUBA         | 0.788864089 | -0.342151331 | 0.018470979 | 0.143288 |
| CES2          | 0.787020828 | -0.345526279 | 0.018526632 | 0.143589 |
| EMILIN3       | 0.675972458 | -0.564963629 | 0.018534793 | 0.143589 |
| PBK           | 1.23226528  | 0.30131287   | 0.018536034 | 0.143589 |
| SZT2-AS1      | 0.601325024 | -0.733783097 | 0.018553276 | 0.143654 |
| VPS72         | 1.248699861 | 0.32042675   | 0.018608752 | 0.144016 |
| PTHLH         | 1.993909167 | 0.995599689  | 0.018631027 | 0.144087 |
| HGSNAT        | 0.772770215 | -0.371888605 | 0.018635544 | 0.144087 |
| GPRIN2        | 0.689426221 | -0.536531925 | 0.018661585 | 0.14422  |
| METTL21A      | 1.333138477 | 0.414826645  | 0.018675535 | 0.144221 |
| C6orf99       | 1.477930312 | 0.563578244  | 0.018679308 | 0.144221 |
| NPEPL1        | 0.666962617 | -0.584322194 | 0.01870308  | 0.144325 |
| RAP1A         | 1.27968919  | 0.355793452  | 0.018723093 | 0.144325 |
| ZNF577        | 0.558041958 | -0.841554495 | 0.018724421 | 0.144325 |
| RP4-647C14.3  | 0.630838201 | -0.664658069 | 0.018734086 | 0.144325 |
| TTC18         | 0.747309375 | -0.420222473 | 0.018742545 | 0.144325 |
| SETDB1        | 0.797498249 | -0.326446744 | 0.018745675 | 0.144325 |
| SFI1          | 0.795747985 | -0.329616496 | 0.018755598 | 0.144333 |
| ZBTB39        | 0.790574124 | -0.339027359 | 0.018764904 | 0.144335 |
| FAM46C        | 1.445979228 | 0.532046828  | 0.018773452 | 0.144335 |
| ABCB8         | 0.792524732 | -0.335472137 | 0.018863629 | 0.144952 |
| COL12A1       | 0.798308326 | -0.324982037 | 0.018871371 | 0.144952 |
| PHB           | 1.233164455 | 0.302365211  | 0.018902042 | 0.145018 |
| ABT1          | 1.290202687 | 0.367597726  | 0.018906749 | 0.145018 |
| YOD1          | 0.798870377 | -0.323966661 | 0.018908869 | 0.145018 |
| CHD1          | 0.805158844 | -0.312654664 | 0.018940689 | 0.145018 |
| TEX2          | 1.247763137 | 0.319344093  | 0.018955031 | 0.145018 |
| SIDT2         | 0.781195087 | -0.356245218 | 0.018958787 | 0.145018 |
| CLTB          | 1.236257424 | 0.305979185  | 0.018969564 | 0.145018 |
| LYG1          | 0.670388363 | -0.576930988 | 0.018975485 | 0.145018 |
| CETN2         | 1.273918177 | 0.349272618  | 0.018980452 | 0.145018 |
| RP5-1180C10.2 | 0.707706985 | -0.498775936 | 0.018991433 | 0.145018 |
| DMXL1         | 0.77928834  | -0.359770864 | 0.018996898 | 0.145018 |
| REQL5         | 0.796733038 | -0.327831695 | 0.018997275 | 0.145018 |
| R3HDM2        | 0.711463294 | -0.491138767 | 0.019007439 | 0.145018 |
| RAPGEF5       | 0.774828644 | -0.368050806 | 0.019008334 | 0.145018 |
| PDCD11        | 0.812982483 | -0.298703828 | 0.019012819 | 0.145018 |
| DLG1-AS1      | 2.203680368 | 1.139914984  | 0.019027973 | 0.145066 |
| EYA4          | 0.695772013 | -0.523313445 | 0.019047326 | 0.145146 |
| C17orf105     | 2.178516949 | 1.123346337  | 0.019079598 | 0.145293 |
| C3            | 2.157904465 | 1.109630995  | 0.019084343 | 0.145293 |
| SMARCC2       | 0.814540187 | -0.295942216 | 0.019095144 | 0.145308 |
| REV1          | 0.787860213 | -0.343988415 | 0.019113348 | 0.14534  |
| DBF4B         | 0.785834973 | -0.347701719 | 0.019153401 | 0.14534  |
| RP11-396F22.1 | 2.449588755 | 1.292539565  | 0.019155618 | 0.14534  |
| TMEM230       | 1.241683456 | 0.312297432  | 0.019158091 | 0.14534  |
| CYB5RL        | 0.681906752 | -0.552353624 | 0.019159172 | 0.14534  |

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| AGO4          | 0.769218104 | -0.378535378 | 0.01916318  | 0.14534  |
| DNAJB2        | 1.246277068 | 0.317624839  | 0.0191683   | 0.14534  |
| KCNN3         | 0.549521996 | -0.863750864 | 0.019175596 | 0.14534  |
| EIF5A         | 1.225037    | 0.292825324  | 0.019179237 | 0.14534  |
| FUZ           | 1.435453307 | 0.521506402  | 0.019196491 | 0.145403 |
| PLXNB3        | 0.685010981 | -0.54580098  | 0.019222466 | 0.145424 |
| C1orf43       | 1.23135814  | 0.30025043   | 0.019223976 | 0.145424 |
| ZFAT          | 0.669254852 | -0.579372402 | 0.019225868 | 0.145424 |
| GABPB1-AS1    | 0.756902866 | -0.401819925 | 0.019259169 | 0.145571 |
| MTMR7         | 0.590355436 | -0.760344275 | 0.019272001 | 0.145571 |
| RP11-488C13.5 | 0.756122227 | -0.403308629 | 0.019276961 | 0.145571 |
| TPM4          | 1.231313206 | 0.300197783  | 0.019289563 | 0.145571 |
| PHLDB3        | 1.306922681 | 0.386173792  | 0.019304908 | 0.145571 |
| RANBP10       | 0.792392767 | -0.335712384 | 0.019306493 | 0.145571 |
| PITPNM2       | 0.756221524 | -0.403119182 | 0.019307593 | 0.145571 |
| IFRD1         | 1.269141098 | 0.343852471  | 0.019343128 | 0.145772 |
| REX01         | 0.792545793 | -0.335433799 | 0.019358264 | 0.145796 |
| IVD           | 0.801648733 | -0.318957882 | 0.019364122 | 0.145796 |
| HS3ST3B1      | 1.775363411 | 0.82811437   | 0.019389191 | 0.145918 |
| RP11-96L14.7  | 1.259111591 | 0.33240615   | 0.019414613 | 0.146042 |
| RPF1          | 1.236556498 | 0.306328158  | 0.019461654 | 0.146259 |
| THAP1         | 1.326242244 | 0.407344314  | 0.019469033 | 0.146259 |
| MT2A          | 1.262678223 | 0.336487034  | 0.019484951 | 0.146259 |
| SAMD5         | 0.775423149 | -0.366944289 | 0.019486426 | 0.146259 |
| ZNF814        | 0.760073157 | -0.395789811 | 0.019488045 | 0.146259 |
| LINC00854     | 1.600549546 | 0.678567337  | 0.019506555 | 0.14633  |
| RP11-707P17.1 | 0.669697226 | -0.578419102 | 0.019577947 | 0.146799 |
| SLC22A17      | 0.745022919 | -0.424643287 | 0.019601946 | 0.146911 |
| SNX19         | 0.776391884 | -0.365143057 | 0.019616225 | 0.146951 |
| HPS4          | 0.796416802 | -0.328404437 | 0.019657206 | 0.147126 |
| U2AF1         | 0.802044347 | -0.318246086 | 0.019657556 | 0.147126 |
| TMEM127       | 0.796436831 | -0.328368156 | 0.019683357 | 0.147254 |
| KIAA2018      | 0.78544107  | -0.348425058 | 0.019701268 | 0.147319 |
| XPO4          | 0.802097886 | -0.318149785 | 0.01971339  | 0.147342 |
| LPCAT4        | 0.797925087 | -0.325674789 | 0.019769462 | 0.147647 |
| SLA2          | 1.341746893 | 0.424112548  | 0.019772194 | 0.147647 |
| RP11-498C9.15 | 1.505912466 | 0.590637913  | 0.019820288 | 0.147935 |
| ANAPC1        | 0.763905109 | -0.388534654 | 0.019831126 | 0.147935 |
| PHEX          | 0.378372572 | -1.402120583 | 0.019839324 | 0.147935 |
| NDUFAB1       | 1.228333442 | 0.296702246  | 0.019856871 | 0.147935 |
| SHISA5        | 1.236925462 | 0.306758565  | 0.019861652 | 0.147935 |
| KLF12         | 0.759020139 | -0.397789929 | 0.019870593 | 0.147935 |
| CHMP4B        | 1.251181869 | 0.323291512  | 0.019875803 | 0.147935 |
| CTC-510F12.2  | 0.385780503 | -1.374147862 | 0.019883054 | 0.147935 |
| SYT2          | 0.367857551 | -1.442780888 | 0.019904563 | 0.147966 |
| BAZ2B         | 0.780846678 | -0.356888797 | 0.019905344 | 0.147966 |
| TFCP2L1       | 0.789474248 | -0.341035887 | 0.019956181 | 0.148277 |
| DROSHA        | 0.808769563 | -0.306199391 | 0.020021023 | 0.148691 |
| RP11-747H7.3  | 0.371984929 | -1.426683923 | 0.020054385 | 0.148848 |
| PTP4A3        | 0.742500581 | -0.42953594  | 0.020060359 | 0.148848 |
| AMOTL1        | 0.804843408 | -0.313219979 | 0.020090268 | 0.149003 |
| C16orf91      | 1.300368479 | 0.378920491  | 0.020120468 | 0.149137 |
| TBC1D2        | 0.765099517 | -0.386280682 | 0.020126556 | 0.149137 |
| ACTB          | 1.263589559 | 0.337527922  | 0.020194847 | 0.149575 |

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| COMMD8        | 1. 28349016  | 0. 360072236  | 0. 020234649 | 0. 149802 |
| CETN3         | 1. 257811155 | 0. 330915336  | 0. 020312023 | 0. 150273 |
| USP38         | 0. 787912572 | -0. 34389254  | 0. 020316601 | 0. 150273 |
| MICAL2        | 0. 779177625 | -0. 359975845 | 0. 020382714 | 0. 150638 |
| ARHGAP32      | 0. 784694333 | -0. 349797313 | 0. 020392101 | 0. 150638 |
| RHBG          | 0. 71904785  | -0. 475840316 | 0. 02039359  | 0. 150638 |
| LINC00630     | 0. 532128346 | -0. 910153837 | 0. 02041563  | 0. 150733 |
| ANK2          | 0. 690062803 | -0. 535200426 | 0. 020504318 | 0. 15127  |
| ABCA1         | 0. 655626948 | -0. 60905294  | 0. 020506831 | 0. 15127  |
| ADK           | 1. 243540289 | 0. 31445325   | 0. 020529432 | 0. 151314 |
| SLC16A14      | 1. 36896682  | 0. 45308748   | 0. 020531299 | 0. 151314 |
| AC006547. 8   | 0. 722131805 | -0. 469665909 | 0. 0206344   | 0. 152006 |
| PCF11         | 1. 251222191 | 0. 323338005  | 0. 020649029 | 0. 152045 |
| ATXN7L1       | 0. 713261765 | -0. 487496457 | 0. 020684571 | 0. 152238 |
| AC093843. 1   | 0. 36509147  | -1. 453670132 | 0. 020755453 | 0. 152692 |
| PLEKHH2       | 0. 779750993 | -0. 358914609 | 0. 020843904 | 0. 153273 |
| TPCN2         | 0. 75384221  | -0. 407665516 | 0. 020884043 | 0. 1535   |
| SMCO2         | 0. 361702727 | -1. 467123619 | 0. 020898445 | 0. 153537 |
| DUT           | 1. 261941054 | 0. 335644523  | 0. 020913291 | 0. 153577 |
| INPPL1        | 0. 812533226 | -0. 299501287 | 0. 020950343 | 0. 15372  |
| KLF2          | 1. 293917265 | 0. 371745372  | 0. 020951586 | 0. 15372  |
| C5orf42       | 0. 729949202 | -0. 454132026 | 0. 021021562 | 0. 154113 |
| NDUFA2        | 1. 238515183 | 0. 308611554  | 0. 021023974 | 0. 154113 |
| TONSL         | 0. 813487666 | -0. 297807623 | 0. 021067873 | 0. 154357 |
| S100A3        | 1. 532743845 | 0. 616116611  | 0. 02107938  | 0. 154357 |
| ELFN2         | 0. 801545136 | -0. 319144332 | 0. 021085528 | 0. 154357 |
| MYH15         | 0. 787658295 | -0. 344358206 | 0. 021101413 | 0. 154404 |
| FER           | 0. 810598861 | -0. 302939946 | 0. 021128161 | 0. 154531 |
| TFDP2         | 0. 799012675 | -0. 323709706 | 0. 021194461 | 0. 154879 |
| GDPD3         | 0. 589202    | -0. 763165768 | 0. 021194623 | 0. 154879 |
| FOXD1         | 2. 984276134 | 1. 577381034  | 0. 021246718 | 0. 155121 |
| RP11-44N11. 2 | 3. 091345575 | 1. 628234939  | 0. 021246718 | 0. 155121 |
| ZNF649        | 0. 597151343 | -0. 743831479 | 0. 02126741  | 0. 155203 |
| SETD2         | 0. 804350598 | -0. 314103619 | 0. 021290992 | 0. 155306 |
| SYNM          | 0. 776240909 | -0. 365423627 | 0. 021334969 | 0. 155491 |
| RBM42         | 1. 228091791 | 0. 296418395  | 0. 021337487 | 0. 155491 |
| RP11-73M18. 7 | 0. 626531491 | -0. 67454107  | 0. 021344932 | 0. 155491 |
| LMAN2         | 1. 223474952 | 0. 290984565  | 0. 02139335  | 0. 155775 |
| PCBP1-AS1     | 1. 228707415 | 0. 297141416  | 0. 021429105 | 0. 155966 |
| HOXB7         | 1. 23436957  | 0. 303774401  | 0. 02143892  | 0. 155968 |
| INCA1         | 1. 754296466 | 0. 810892575  | 0. 021524574 | 0. 156522 |
| LMTK2         | 0. 801555635 | -0. 319125436 | 0. 021536545 | 0. 156539 |
| APOBEC3B      | 1. 367595167 | 0. 45164123   | 0. 02155013  | 0. 156568 |
| LINC00240     | 2. 298025281 | 1. 200394669  | 0. 021573885 | 0. 156621 |
| EMP3          | 1. 235990049 | 0. 305667128  | 0. 021576453 | 0. 156621 |
| RP4-635E18. 7 | 0. 770127995 | -0. 376829854 | 0. 021599933 | 0. 156722 |
| MRC2          | 0. 80293381  | -0. 31664703  | 0. 021634012 | 0. 156899 |
| BZW1          | 1. 225583656 | 0. 293468964  | 0. 021671504 | 0. 157102 |
| SS18L1        | 0. 797339701 | -0. 32673359  | 0. 021722236 | 0. 157306 |
| ZBTB46        | 0. 783040751 | -0. 352840704 | 0. 021743075 | 0. 157306 |
| DENND3        | 0. 790997536 | -0. 338254894 | 0. 021750194 | 0. 157306 |
| CMTR1         | 0. 798747349 | -0. 324188856 | 0. 021753876 | 0. 157306 |
| HIP1R         | 0. 812587296 | -0. 299405286 | 0. 021756474 | 0. 157306 |
| AIP           | 1. 233155402 | 0. 30235462   | 0. 021763804 | 0. 157306 |

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| SGPP2         | 0.737929209 | -0.438445672 | 0.021774938 | 0.157306 |
| ATP6V1G2      | 1.54133237  | 0.624177996  | 0.021776515 | 0.157306 |
| ELK4          | 0.812498968 | -0.299562114 | 0.021801845 | 0.157419 |
| LSMEM2        | 1.340766733 | 0.423058258  | 0.021819597 | 0.157478 |
| CCDC85B       | 1.223872371 | 0.291453117  | 0.02186471  | 0.157734 |
| SNHG8         | 1.24426451  | 0.315293211  | 0.02189657  | 0.157894 |
| DCAF12        | 1.239907832 | 0.310232882  | 0.021925056 | 0.15803  |
| HUWE1         | 0.814554235 | -0.295917334 | 0.022035163 | 0.158754 |
| MZT1          | 1.245054632 | 0.316209048  | 0.022060795 | 0.158869 |
| GOLGA8H       | 0.437238816 | -1.193506613 | 0.022098501 | 0.15907  |
| ADAMTS15      | 0.632483996 | -0.66089912  | 0.022170742 | 0.15952  |
| RP11-57H14.2  | 0.642155556 | -0.639005277 | 0.022181233 | 0.159526 |
| TBC1D8        | 0.79232722  | -0.335831729 | 0.022201384 | 0.159547 |
| RC3H2         | 0.813695888 | -0.297438395 | 0.022203694 | 0.159547 |
| PRDX6         | 1.228152156 | 0.296489308  | 0.022225036 | 0.159617 |
| PUM1          | 0.817932437 | -0.289946417 | 0.022232944 | 0.159617 |
| AC073283.7    | 0.576899637 | -0.79360774  | 0.022254613 | 0.159683 |
| TRIM32        | 0.794545606 | -0.331798064 | 0.022268755 | 0.159683 |
| NDUFC2        | 0.619124497 | -0.691698552 | 0.022271427 | 0.159683 |
| AC051649.6    | 0.417209408 | -1.261156403 | 0.02228132  | 0.159684 |
| TMED2         | 1.230285593 | 0.298993255  | 0.02229735  | 0.159729 |
| CENPH         | 1.251193756 | 0.323305218  | 0.022334492 | 0.159926 |
| PNMA1         | 1.26351356  | 0.337441147  | 0.022365516 | 0.160078 |
| VCPIP1        | 0.800577479 | -0.320887063 | 0.022390648 | 0.160188 |
| TWF1          | 1.234931309 | 0.304430797  | 0.022410753 | 0.160261 |
| MMP19         | 2.544619133 | 1.347449737  | 0.022444153 | 0.16043  |
| S100A10       | 1.219529235 | 0.286324344  | 0.022458425 | 0.160462 |
| LRRC69        | 0.496854992 | -1.009103236 | 0.022518971 | 0.16076  |
| TMEM97        | 1.239151332 | 0.309352388  | 0.02252419  | 0.16076  |
| RP11-173P15.3 | 0.812509807 | -0.299542869 | 0.022529612 | 0.16076  |
| KCNH8         | 0.522704406 | -0.935932775 | 0.022602435 | 0.161187 |
| NCKAP5L       | 0.754062158 | -0.407244644 | 0.02261062  | 0.161187 |
| ANKMY1        | 0.760450721 | -0.395073333 | 0.022626644 | 0.161187 |
| C3orf62       | 0.740383985 | -0.433654406 | 0.022628722 | 0.161187 |
| JARID2        | 0.799849404 | -0.3221997   | 0.022642386 | 0.161214 |
| ITPR1         | 0.679283186 | -0.557914951 | 0.022670275 | 0.161288 |
| HMGB2         | 1.225358345 | 0.293203714  | 0.022672562 | 0.161288 |
| FARP1         | 0.812973082 | -0.298720511 | 0.022705459 | 0.161372 |
| PAX6          | 0.717581206 | -0.47878599  | 0.022719214 | 0.161372 |
| DHX34         | 0.796264051 | -0.328681168 | 0.022720467 | 0.161372 |
| TMEM126B      | 1.273788261 | 0.349125481  | 0.022723689 | 0.161372 |
| JRKL          | 1.298506775 | 0.376853542  | 0.022761211 | 0.161559 |
| ATAD5         | 0.786232672 | -0.346971778 | 0.022769838 | 0.161559 |
| CTB-50L17.7   | 0.556712017 | -0.844996871 | 0.022782165 | 0.161577 |
| ZNF124        | 0.668591661 | -0.580802734 | 0.022796651 | 0.16161  |
| NAA20         | 1.237221209 | 0.30710347   | 0.022826735 | 0.161753 |
| GGA2          | 0.816134694 | -0.293120822 | 0.022842239 | 0.161793 |
| IN080         | 0.8047293   | -0.313424534 | 0.022899659 | 0.162129 |
| STC2          | 1.232668475 | 0.301784841  | 0.022930756 | 0.162279 |
| FZD5          | 0.772028287 | -0.373274385 | 0.022943229 | 0.162297 |
| RP11-465B22.8 | 0.645831177 | -0.630771007 | 0.022964362 | 0.162377 |
| PSORS1C1      | 0.633053922 | -0.659599704 | 0.023001113 | 0.162566 |
| SLC26A10      | 0.797878568 | -0.325758901 | 0.023032373 | 0.162717 |
| ASB16         | 0.705356902 | -0.503574666 | 0.023074149 | 0.162942 |

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| RP11-316M1. 12 | 1. 225553577 | 0. 293433555  | 0. 023087894 | 0. 162969 |
| CBX3           | 1. 22279076  | 0. 290177555  | 0. 023101575 | 0. 162995 |
| GLIS1          | 0. 437983363 | -1. 191052026 | 0. 023134043 | 0. 163154 |
| ATF7IP         | 0. 796202809 | -0. 328792134 | 0. 023203659 | 0. 163512 |
| TMEM91         | 0. 61788199  | -0. 694596772 | 0. 023204864 | 0. 163512 |
| INPP5J         | 0. 738848582 | -0. 436649363 | 0. 023240277 | 0. 163644 |
| SLC52A3        | 0. 753933674 | -0. 407490485 | 0. 023243574 | 0. 163644 |
| PSMA3          | 1. 233412628 | 0. 302655522  | 0. 023268178 | 0. 163747 |
| DENND4B        | 0. 806801216 | -0. 309714837 | 0. 023288053 | 0. 163817 |
| BOD1L1         | 0. 810880219 | -0. 302439276 | 0. 023316252 | 0. 163945 |
| PRPS1          | 1. 246226088 | 0. 317565824  | 0. 023347004 | 0. 16409  |
| PDE4C          | 1. 595932156 | 0. 674399323  | 0. 023380096 | 0. 164127 |
| KIF13B         | 0. 792774024 | -0. 335018404 | 0. 023381535 | 0. 164127 |
| TSKU           | 0. 777012165 | -0. 363990909 | 0. 023382265 | 0. 164127 |
| C2orf76        | 1. 51817932  | 0. 602342205  | 0. 023414663 | 0. 164284 |
| WDR11          | 0. 818028036 | -0. 289777807 | 0. 023449875 | 0. 16446  |
| KIAA0226       | 0. 787808079 | -0. 344083883 | 0. 023526171 | 0. 164925 |
| DGKE           | 0. 716751218 | -0. 480455643 | 0. 023557876 | 0. 165012 |
| SEC16A         | 0. 81723836  | -0. 291171171 | 0. 023558708 | 0. 165012 |
| CCDC124        | 1. 217989217 | 0. 284501361  | 0. 023590661 | 0. 165165 |
| SCG5           | 0. 596391633 | -0. 745668078 | 0. 023617238 | 0. 16528  |
| DNAJA2         | 1. 232697034 | 0. 301818265  | 0. 023627457 | 0. 165281 |
| TEX14          | 1. 309309818 | 0. 388806518  | 0. 023642327 | 0. 165291 |
| AC064852. 4    | 0. 599241903 | -0. 738789585 | 0. 023649088 | 0. 165291 |
| HCN3           | 0. 765571171 | -0. 385391592 | 0. 023712317 | 0. 165663 |
| VPS25          | 1. 248514857 | 0. 320212989  | 0. 023779183 | 0. 165949 |
| ROBO3          | 0. 787686725 | -0. 344306133 | 0. 023792511 | 0. 165949 |
| TMEM116        | 1. 60833186  | 0. 68556512   | 0. 023804166 | 0. 165949 |
| FAM157A        | 0. 417771383 | -1. 259214422 | 0. 023812981 | 0. 165949 |
| ZNF710         | 0. 717505289 | -0. 478938629 | 0. 023828274 | 0. 165949 |
| TEX30          | 1. 276977355 | 0. 352732942  | 0. 023831394 | 0. 165949 |
| STAR           | 2. 582029983 | 1. 368505754  | 0. 023836404 | 0. 165949 |
| CENPF          | 0. 820566296 | -0. 285308197 | 0. 023837546 | 0. 165949 |
| SET            | 1. 227738079 | 0. 296002815  | 0. 023844545 | 0. 165949 |
| AC034243. 1    | 2. 507173524 | 1. 32606185   | 0. 023873225 | 0. 166078 |
| RARA           | 1. 256470664 | 0. 329376987  | 0. 023923422 | 0. 166354 |
| IGFBP6         | 1. 237801378 | 0. 307779834  | 0. 023933246 | 0. 166354 |
| CTC-365E16. 1  | 0. 65587777  | -0. 608501117 | 0. 023943544 | 0. 166355 |
| RP11-589P10. 5 | 0. 414220026 | -1. 271530791 | 0. 024012298 | 0. 166726 |
| PCNXL3         | 0. 816010926 | -0. 293339625 | 0. 024023557 | 0. 166726 |
| RP11-284M14. 1 | 2. 559578558 | 1. 355906286  | 0. 02402856  | 0. 166726 |
| PERP           | 1. 255517806 | 0. 328282489  | 0. 024037574 | 0. 166726 |
| OSGIN1         | 1. 231082283 | 0. 299927191  | 0. 024081814 | 0. 166962 |
| TXNDC12        | 1. 216895175 | 0. 283204898  | 0. 024092918 | 0. 166968 |
| ZNF417         | 0. 674279825 | -0. 568580664 | 0. 024111784 | 0. 167028 |
| PAK7           | 2. 576277289 | 1. 365287882  | 0. 024127404 | 0. 167066 |
| RP4-756H11. 3  | 0. 33676821  | -1. 570172135 | 0. 0241449   | 0. 167116 |
| MORF4L2-AS1    | 1. 799207873 | 0. 847361879  | 0. 024160882 | 0. 167156 |
| GPNMB          | 1. 727086167 | 0. 788340063  | 0. 024220927 | 0. 167452 |
| COX6C          | 1. 220836103 | 0. 287869531  | 0. 02422407  | 0. 167452 |
| CLNS1A         | 1. 237936768 | 0. 307937626  | 0. 024237537 | 0. 167474 |
| RIN2           | 1. 784695321 | 0. 835677802  | 0. 024259457 | 0. 167542 |
| MGAT5B         | 0. 726262085 | -0. 46143783  | 0. 024274633 | 0. 167542 |
| SMIM20         | 1. 260601019 | 0. 334111734  | 0. 024286794 | 0. 167542 |

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| AF129408.17    | 0.541322165 | -0.885440632 | 0.024298291 | 0.167542 |
| RP11-209D14.2  | 2.527149609 | 1.337511076  | 0.024308099 | 0.167542 |
| FBXO44         | 0.812928155 | -0.29880024  | 0.024308668 | 0.167542 |
| TMEM14C        | 1.244377265 | 0.315423942  | 0.024373054 | 0.167915 |
| NFIB           | 0.78527797  | -0.34872467  | 0.024398745 | 0.168021 |
| RP5-906A24.2   | 0.493324006 | -1.019392601 | 0.024430177 | 0.168167 |
| ABL1           | 0.809746806 | -0.304457222 | 0.024465958 | 0.168282 |
| RP11-1079K10.4 | 1.225461902 | 0.293325633  | 0.024467505 | 0.168282 |
| SNX13          | 0.79082624  | -0.338567354 | 0.024514495 | 0.168534 |
| SNX27          | 0.809623108 | -0.304677628 | 0.024524676 | 0.168534 |
| LAMC3          | 0.76077073  | -0.394466353 | 0.024561707 | 0.168717 |
| KIAA1147       | 0.814994323 | -0.295138085 | 0.024645669 | 0.169198 |
| TRHDE          | 0.595016018 | -0.748999589 | 0.024661277 | 0.169198 |
| RPL7A          | 0.771531075 | -0.37420383  | 0.024662604 | 0.169198 |
| UBE2D1         | 1.278952181 | 0.354962323  | 0.024687025 | 0.169294 |
| ZBTB24         | 0.762301064 | -0.391567205 | 0.024736542 | 0.169563 |
| DYNC1LI1       | 1.274449339 | 0.349874026  | 0.024823841 | 0.17009  |
| RP11-282I1.1   | 0.498304837 | -1.004899518 | 0.024838094 | 0.170094 |
| SLMO2          | 1.224873393 | 0.292632635  | 0.024853813 | 0.170094 |
| VIPR1-AS1      | 0.513315822 | -0.962081366 | 0.024855536 | 0.170094 |
| ALKBH2         | 1.26161551  | 0.335272302  | 0.024875171 | 0.170124 |
| PLBD2          | 0.790928228 | -0.33838131  | 0.024880763 | 0.170124 |
| CCNG2          | 1.261803312 | 0.335487042  | 0.024904029 | 0.170124 |
| PLP2           | 1.213432565 | 0.279093934  | 0.02491333  | 0.170124 |
| ARAP1          | 0.814076787 | -0.296763213 | 0.024921813 | 0.170124 |
| FAM167B        | 1.751061306 | 0.808229594  | 0.024931416 | 0.170124 |
| RP11-92C4.3    | 0.751617657 | -0.411929135 | 0.024932662 | 0.170124 |
| RP11-324I22.4  | 1.736772936 | 0.79640915   | 0.024967493 | 0.170291 |
| ATM            | 0.802802325 | -0.316883301 | 0.025008921 | 0.170502 |
| DYNC1H1        | 0.812162743 | -0.300159248 | 0.025034545 | 0.170606 |
| FBXL8          | 0.681041266 | -0.554185877 | 0.025071747 | 0.170726 |
| RP11-203M5.8   | 1.254828744 | 0.327490482  | 0.025085138 | 0.170726 |
| EPHB6          | 0.766043477 | -0.384501821 | 0.02508537  | 0.170726 |
| EFR3B          | 0.667873345 | -0.582353559 | 0.02509849  | 0.170726 |
| YTHDC2         | 0.806563767 | -0.310139497 | 0.025117317 | 0.170726 |
| COPS7A         | 1.225692873 | 0.293597522  | 0.025124165 | 0.170726 |
| BAIAP2-AS1     | 0.803218971 | -0.31613475  | 0.025125204 | 0.170726 |
| RP11-227B21.2  | 0.576331545 | -0.795029107 | 0.025146968 | 0.170803 |
| RP11-148021.6  | 0.430331401 | -1.216479978 | 0.025209959 | 0.171101 |
| EIF3J-AS1      | 1.376135856 | 0.460622904  | 0.025211763 | 0.171101 |
| TTL6           | 0.610976007 | -0.710812369 | 0.025260265 | 0.17136  |
| TM2D2          | 1.226236915 | 0.294237741  | 0.025309058 | 0.171578 |
| CRYZ           | 1.240080598 | 0.31043389   | 0.025313417 | 0.171578 |
| VASH1          | 0.793761634 | -0.333222263 | 0.025341808 | 0.171699 |
| TRAF6          | 0.655353793 | -0.609654139 | 0.025366164 | 0.171793 |
| SSTR2          | 2.37925944  | 1.250512595  | 0.025379975 | 0.171816 |
| DOC2B          | 0.624843241 | -0.678433798 | 0.025423225 | 0.172    |
| C1orf85        | 1.262129265 | 0.335859676  | 0.02542824  | 0.172    |
| GUCY2D         | 2.220115924 | 1.150635009  | 0.025613939 | 0.17317  |
| COQ2           | 1.274012612 | 0.34937956   | 0.025622313 | 0.17317  |
| BAD            | 1.232256086 | 0.301302107  | 0.025644307 | 0.173247 |
| KCTD11         | 1.326771836 | 0.407920293  | 0.025689947 | 0.173484 |
| PTPRCAP        | 0.55723177  | -0.843650581 | 0.025722081 | 0.173562 |
| AMN1           | 1.266183728 | 0.340486761  | 0.025722714 | 0.173562 |

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| SIRT5           | 1. 328934446 | 0. 410269941  | 0. 025743625 | 0. 173632 |
| TP53INP2        | 1. 315886186 | 0. 396034713  | 0. 025762219 | 0. 17367  |
| RP5-1050D4. 5   | 2. 615514063 | 1. 387094527  | 0. 025770531 | 0. 17367  |
| NDUFAF3         | 1. 234467087 | 0. 303888372  | 0. 025781889 | 0. 173675 |
| TBX19           | 0. 691433244 | -0. 532338124 | 0. 025794881 | 0. 173691 |
| RP11-304L19. 2  | 0. 548965502 | -0. 865212604 | 0. 025824848 | 0. 173796 |
| RNF167          | 1. 216164307 | 0. 282338153  | 0. 025838358 | 0. 173796 |
| RP11-672L10. 6  | 2. 656764046 | 1. 409670104  | 0. 025842222 | 0. 173796 |
| RP11-336K24. 12 | 1. 854963882 | 0. 891391096  | 0. 02587767  | 0. 173963 |
| PSMB4           | 1. 225598893 | 0. 293486899  | 0. 026035687 | 0. 174932 |
| ZNF584          | 0. 75717733  | -0. 401296878 | 0. 0260432   | 0. 174932 |
| RPIA            | 1. 250519005 | 0. 322526983  | 0. 026066552 | 0. 175017 |
| RBM26           | 0. 820868339 | -0. 284777252 | 0. 026091077 | 0. 17511  |
| RP6-65G23. 3    | 1. 622019556 | 0. 697791214  | 0. 026111483 | 0. 175162 |
| DVL3            | 0. 815875678 | -0. 293578763 | 0. 026120332 | 0. 175162 |
| FGD6            | 0. 790283095 | -0. 339558547 | 0. 026142497 | 0. 175239 |
| SRRM5           | 1. 30109789  | 0. 37972951   | 0. 026161721 | 0. 175252 |
| ZNF324B         | 0. 680664646 | -0. 554983918 | 0. 026183145 | 0. 175252 |
| KIAA0430        | 0. 815263497 | -0. 294661675 | 0. 026183405 | 0. 175252 |
| LZTR1           | 0. 814068501 | -0. 296777897 | 0. 026187198 | 0. 175252 |
| PPP6R2          | 0. 817327503 | -0. 291013813 | 0. 026212481 | 0. 17535  |
| ZMYND8          | 0. 794365839 | -0. 332124512 | 0. 026316073 | 0. 175971 |
| ZNF613          | 0. 652523229 | -0. 615898835 | 0. 026331992 | 0. 176005 |
| QSOX2           | 0. 818172042 | -0. 289523855 | 0. 026344733 | 0. 176019 |
| RELB            | 1. 286266027 | 0. 363189054  | 0. 026377351 | 0. 176165 |
| RP11-796E2. 4   | 1. 709465489 | 0. 773545297  | 0. 026388321 | 0. 176166 |
| HNRNPF          | 1. 229395053 | 0. 297948585  | 0. 026400158 | 0. 176173 |
| DCLRE1A         | 1. 266906891 | 0. 3413105    | 0. 026426222 | 0. 176275 |
| ZFYVE16         | 0. 803400973 | -0. 315807886 | 0. 026440247 | 0. 176297 |
| LRRC73          | 1. 716894174 | 0. 779801117  | 0. 026453137 | 0. 176311 |
| CTD-3222D19. 7  | 1. 64454347  | 0. 717687143  | 0. 026475746 | 0. 17639  |
| HSBP1           | 1. 215310026 | 0. 281324393  | 0. 026504491 | 0. 17651  |
| FKBP4           | 1. 215603376 | 0. 281672587  | 0. 026546269 | 0. 176716 |
| MED30           | 1. 289495252 | 0. 366806461  | 0. 026565113 | 0. 17677  |
| TIMMDC1         | 1. 231547737 | 0. 30047255   | 0. 026588361 | 0. 176853 |
| BID             | 1. 249460179 | 0. 321304922  | 0. 026649537 | 0. 177188 |
| SLC26A11        | 0. 784836446 | -0. 349536056 | 0. 02683922  | 0. 178376 |
| TRAF3IP2-AS1    | 1. 791123654 | 0. 84086494   | 0. 026912887 | 0. 178793 |
| TLL1            | 0. 493707069 | -1. 018272794 | 0. 0269238   | 0. 178793 |
| PRICKLE4        | 0. 765816626 | -0. 384929113 | 0. 026961333 | 0. 17897  |
| RP11-63P12. 6   | 2. 17468374  | 1. 120805608  | 0. 026979516 | 0. 179018 |
| TOR2A           | 1. 30349855  | 0. 382388978  | 0. 027026507 | 0. 179257 |
| EPCAM           | 1. 217067418 | 0. 283409087  | 0. 027046864 | 0. 17932  |
| PAXIP1-AS2      | 0. 755480316 | -0. 404533929 | 0. 027058347 | 0. 179323 |
| LGI3            | 1. 440512499 | 0. 526582179  | 0. 02712891  | 0. 179718 |
| CDC34           | 1. 217568792 | 0. 284003286  | 0. 027148393 | 0. 179774 |
| KCNQ4           | 0. 733455995 | -0. 447217683 | 0. 027162823 | 0. 179797 |
| TMEM161B        | 0. 778045375 | -0. 362073801 | 0. 027222401 | 0. 180119 |
| ZNF296          | 1. 444049686 | 0. 530120383  | 0. 02724815  | 0. 180216 |
| TRAF5           | 0. 767760329 | -0. 381272079 | 0. 027265526 | 0. 180258 |
| GTF3A           | 1. 219978722 | 0. 286855986  | 0. 027298979 | 0. 180407 |
| SRSF5           | 0. 820878852 | -0. 284758775 | 0. 027321645 | 0. 180446 |
| SGK223          | 0. 813601165 | -0. 297606349 | 0. 02732689  | 0. 180446 |
| ZNF226          | 0. 770766385 | -0. 375634441 | 0. 027372502 | 0. 180674 |

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| OMA1            | 1. 335153054 | 0. 417005134  | 0. 027411521 | 0. 180805 |
| RP11-218F10. 3  | 0. 5056217   | -0. 983869713 | 0. 027414368 | 0. 180805 |
| H3F3B           | 1. 27065601  | 0. 34557352   | 0. 027461951 | 0. 181045 |
| CTD-2537I9. 12  | 0. 710204772 | -0. 493693042 | 0. 027481006 | 0. 181097 |
| AC093323. 3     | 1. 251680296 | 0. 323866117  | 0. 027501609 | 0. 181097 |
| GOSR2           | 0. 773357158 | -0. 37079325  | 0. 027502988 | 0. 181097 |
| NKX2-1-AS1      | 2. 734266664 | 1. 451153951  | 0. 027543446 | 0. 181291 |
| CEP85L          | 0. 713673167 | -0. 486664564 | 0. 027605764 | 0. 181628 |
| SRSF7           | 1. 214555296 | 0. 280428175  | 0. 027619724 | 0. 181638 |
| RHBDL3          | 0. 761144075 | -0. 39375853  | 0. 027629496 | 0. 181638 |
| IGF2-AS         | 1. 755361728 | 0. 811768358  | 0. 027646989 | 0. 18168  |
| UBB             | 1. 222275143 | 0. 289569082  | 0. 027664611 | 0. 181723 |
| RP11-566E18. 3  | 0. 739262197 | -0. 435841953 | 0. 027693281 | 0. 181838 |
| CABLES1         | 0. 732218937 | -0. 44965301  | 0. 027738182 | 0. 182059 |
| MAP1LC3B        | 1. 212124352 | 0. 277537713  | 0. 027749111 | 0. 182059 |
| SDS             | 0. 397298197 | -1. 331705847 | 0. 027764629 | 0. 182088 |
| TAF12           | 1. 235720349 | 0. 305352289  | 0. 027776313 | 0. 182092 |
| MRPL10          | 1. 216384305 | 0. 282599107  | 0. 027789566 | 0. 182095 |
| RP1-266L20. 9   | 0. 39172707  | -1. 352079266 | 0. 027807658 | 0. 182095 |
| ZNF614          | 1. 670403648 | 0. 740196768  | 0. 027810121 | 0. 182095 |
| NDUFS6          | 1. 227122769 | 0. 295279592  | 0. 02786433  | 0. 182309 |
| CTD-3110H11. 1  | 0. 608553355 | -0. 716544338 | 0. 027875134 | 0. 182309 |
| GCH1            | 1. 251734006 | 0. 323928022  | 0. 027881948 | 0. 182309 |
| RP11-46C24. 6   | 0. 584539629 | -0. 77462726  | 0. 027893382 | 0. 182309 |
| SHC4            | 1. 904540706 | 0. 929443123  | 0. 027898533 | 0. 182309 |
| OSER1           | 1. 247871783 | 0. 319469707  | 0. 027933101 | 0. 182462 |
| PFDN2           | 1. 214940738 | 0. 280885944  | 0. 027947295 | 0. 182482 |
| MRP63           | 1. 227088191 | 0. 295238939  | 0. 027975536 | 0. 182594 |
| MST1R           | 0. 82007402  | -0. 286173962 | 0. 027991571 | 0. 182611 |
| RP11-395A13. 2  | 2. 337886272 | 1. 225204751  | 0. 028000442 | 0. 182611 |
| PRDM2           | 0. 799101222 | -0. 323549835 | 0. 028068063 | 0. 182979 |
| FAM222B         | 0. 793571319 | -0. 33356821  | 0. 028098592 | 0. 183105 |
| C20orf112       | 0. 78201717  | -0. 354727812 | 0. 028116751 | 0. 18315  |
| CAAP1           | 1. 263547713 | 0. 337480143  | 0. 028128344 | 0. 183153 |
| CIDEB           | 0. 808160121 | -0. 307286932 | 0. 028177017 | 0. 183397 |
| UBN1            | 0. 821103777 | -0. 284363523 | 0. 028221594 | 0. 183614 |
| SDC4            | 1. 212541539 | 0. 278034172  | 0. 028278556 | 0. 183912 |
| FAM53A          | 2. 037762277 | 1. 026985758  | 0. 02832473  | 0. 184139 |
| RP11-196G18. 22 | 1. 308712151 | 0. 388147814  | 0. 028352319 | 0. 184224 |
| SLC9A1          | 0. 795659202 | -0. 329777469 | 0. 028360386 | 0. 184224 |
| UAP1L1          | 0. 792596133 | -0. 335342167 | 0. 028393432 | 0. 184366 |
| USP37           | 0. 807618298 | -0. 308254497 | 0. 028413356 | 0. 184422 |
| KIAA0513        | 0. 79980381  | -0. 322281941 | 0. 028490474 | 0. 184849 |
| CNTD2           | 1. 596379569 | 0. 67480372   | 0. 028502759 | 0. 184856 |
| RP11-867G2. 6   | 0. 562687235 | -0. 82959486  | 0. 02852898  | 0. 184953 |
| ARL6IP5         | 1. 222628145 | 0. 289985683  | 0. 028584917 | 0. 185242 |
| CDHR5           | 0. 474628608 | -1. 075129034 | 0. 028611964 | 0. 185302 |
| GOLGA3          | 0. 815243624 | -0. 294696842 | 0. 028617544 | 0. 185302 |
| ZNF543          | 0. 679117147 | -0. 558267636 | 0. 028628748 | 0. 185302 |
| CCNA2           | 1. 215481277 | 0. 281527671  | 0. 0286394   | 0. 185302 |
| AC137932. 5     | 0. 48228891  | -1. 052030459 | 0. 028691327 | 0. 185412 |
| C4orf21         | 0. 802355931 | -0. 317685725 | 0. 028692556 | 0. 185412 |
| TCF20           | 0. 819618683 | -0. 286975225 | 0. 028692596 | 0. 185412 |
| NDUFA6          | 1. 223084081 | 0. 290523586  | 0. 028701678 | 0. 185412 |



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| MAST3         | 0.791074636 | -0.338114279 | 0.028716581 | 0.185435 |
| SPTLC2        | 0.824856343 | -0.277785214 | 0.028769569 | 0.185704 |
| TNKS          | 0.824530127 | -0.278355887 | 0.028802367 | 0.185842 |
| SIAH2         | 1.239182111 | 0.309388222  | 0.028840965 | 0.185994 |
| FAM89A        | 1.286322142 | 0.363251992  | 0.028848638 | 0.185994 |
| GAL3ST4       | 0.707573134 | -0.499048824 | 0.028863877 | 0.185997 |
| ATP5E         | 1.209865979 | 0.274847245  | 0.028871751 | 0.185997 |
| CTD-3193013.9 | 0.785858203 | -0.347659073 | 0.028899775 | 0.186078 |
| KLHL13        | 1.43992498  | 0.525993649  | 0.028907136 | 0.186078 |
| CCDC88C       | 0.79749235  | -0.326457415 | 0.028998249 | 0.186539 |
| RP11-244019.1 | 0.625791591 | -0.676245823 | 0.029001467 | 0.186539 |
| ANKRD16       | 0.674474388 | -0.568164435 | 0.029058387 | 0.18681  |
| TNS1          | 0.728608636 | -0.456784    | 0.029066506 | 0.18681  |
| GNG3          | 0.609036141 | -0.715400254 | 0.029106271 | 0.186993 |
| N4BP1         | 0.799408715 | -0.322994795 | 0.029144335 | 0.187154 |
| PPA1          | 1.227694448 | 0.295951544  | 0.02915417  | 0.187154 |
| SSH1          | 0.827735391 | -0.272758452 | 0.02916797  | 0.187169 |
| MYO9A         | 0.796807254 | -0.327697313 | 0.029261451 | 0.187599 |
| C6orf1        | 1.267789603 | 0.342315342  | 0.029261543 | 0.187599 |
| FOXK1         | 0.82166861  | -0.283371441 | 0.02926945  | 0.187599 |
| SPECC1L       | 0.791798442 | -0.336794867 | 0.029281461 | 0.187603 |
| TFDP1         | 1.216995206 | 0.283323485  | 0.029307539 | 0.187697 |
| GAN           | 0.80984583  | -0.304280807 | 0.029393527 | 0.188174 |
| CPT1B         | 0.422211954 | -1.24396067  | 0.029412028 | 0.188219 |
| PLXND1        | 0.815043334 | -0.295051329 | 0.02944269  | 0.188258 |
| MYT1          | 0.752956904 | -0.409360802 | 0.029444419 | 0.188258 |
| RP4-717I23.3  | 0.778152681 | -0.361874841 | 0.029452671 | 0.188258 |
| CMC2          | 1.226170412 | 0.294159498  | 0.029480134 | 0.188323 |
| RP11-815I9.4  | 0.442707215 | -1.175575208 | 0.029485844 | 0.188323 |
| GJC1          | 0.818240971 | -0.289402317 | 0.029523959 | 0.188493 |
| NAA40         | 0.809081877 | -0.305642388 | 0.029575956 | 0.188751 |
| MAML3         | 0.693414882 | -0.528209295 | 0.029616111 | 0.188933 |
| TRIM33        | 0.823324918 | -0.280466206 | 0.029627445 | 0.188933 |
| CLPP          | 1.215750787 | 0.281847526  | 0.029666991 | 0.189042 |
| RP11-336A10.2 | 0.511731106 | -0.966542164 | 0.029667718 | 0.189042 |
| ZNF318        | 0.810375201 | -0.303338069 | 0.029701386 | 0.189183 |
| C1orf109      | 1.24821036  | 0.319861091  | 0.029734482 | 0.18932  |
| UBXN7         | 0.826559328 | -0.274809719 | 0.029765924 | 0.189447 |
| SPNS1         | 0.474936807 | -1.074192526 | 0.029865773 | 0.190009 |
| KRT7          | 2.160861717 | 1.111606751  | 0.029908824 | 0.190139 |
| RNF138        | 1.259645792 | 0.33301811   | 0.029909436 | 0.190139 |
| BET1L         | 0.809008486 | -0.305773259 | 0.030018852 | 0.190693 |
| SMARCD3       | 0.792140417 | -0.336171906 | 0.030032059 | 0.190693 |
| RP11-297K8.2  | 1.701220813 | 0.76657041   | 0.030041362 | 0.190693 |
| GNG5          | 1.230244964 | 0.298945611  | 0.030054306 | 0.190693 |
| PANK4         | 0.79555076  | -0.329974111 | 0.030054884 | 0.190693 |
| FASTKD1       | 0.763268157 | -0.38973809  | 0.03007201  | 0.190728 |
| CTB-31020.4   | 0.676570875 | -0.563687021 | 0.030130594 | 0.191025 |
| AC092171.4    | 0.760305919 | -0.395348073 | 0.030161871 | 0.19115  |
| TMEM50A       | 1.216783721 | 0.283072757  | 0.030188818 | 0.191246 |
| SCOC          | 1.22297583  | 0.290395892  | 0.030209633 | 0.191304 |
| TGOLN2        | 0.829062174 | -0.270447797 | 0.03029333  | 0.191703 |
| RP11-360F5.1  | 0.514524849 | -0.958687341 | 0.030306961 | 0.191703 |
| CLDN7         | 1.21159988  | 0.27691334   | 0.030307692 | 0.191703 |

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| TTN-AS1         | 0. 756981929 | -0. 401669235 | 0. 030424328 | 0. 192366 |
| ATP2A1          | 0. 765148804 | -0. 386187749 | 0. 03046374  | 0. 192507 |
| RP11-644F5. 11  | 1. 57694755  | 0. 657134676  | 0. 030470069 | 0. 192507 |
| WDFY3           | 0. 812021181 | -0. 300410735 | 0. 030515045 | 0. 192631 |
| SLC35B4         | 0. 813842567 | -0. 297178354 | 0. 030518342 | 0. 192631 |
| ZNF771          | 1. 240738816 | 0. 311199451  | 0. 030524949 | 0. 192631 |
| RP11-196G18. 24 | 1. 644694574 | 0. 717819695  | 0. 030546642 | 0. 192693 |
| SCNN1A          | 0. 804230971 | -0. 314318199 | 0. 030558337 | 0. 192693 |
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| TPO             | 2. 424731115 | 1. 277824772  | 0. 03063482  | 0. 193013 |
| NBPF14          | 0. 573112759 | -0. 80310908  | 0. 030644423 | 0. 193013 |
| CHD3            | 0. 82510109  | -0. 277357208 | 0. 030692222 | 0. 193239 |
| GPRIN3          | 0. 656517994 | -0. 607093541 | 0. 030865241 | 0. 194154 |
| RP11-309L24. 9  | 2. 065215146 | 1. 046292084  | 0. 030868963 | 0. 194154 |
| AC006116. 17    | 2. 414288725 | 1. 271598218  | 0. 030872991 | 0. 194154 |
| AF230666. 2     | 0. 668047592 | -0. 58197721  | 0. 030900384 | 0. 194182 |
| ZNF70           | 0. 66325751  | -0. 592358989 | 0. 030901142 | 0. 194182 |
| TADA2A          | 0. 777507146 | -0. 363072161 | 0. 030913792 | 0. 194187 |
| PRDM5           | 0. 646027208 | -0. 630333169 | 0. 030953079 | 0. 194359 |
| FBXW8           | 0. 784668915 | -0. 349844047 | 0. 030972906 | 0. 194409 |
| DCTPP1          | 1. 215901444 | 0. 282026295  | 0. 031007134 | 0. 194521 |
| GTSF1           | 1. 207335048 | 0. 271826094  | 0. 031014553 | 0. 194521 |
| IKZF4           | 1. 314272444 | 0. 394264372  | 0. 031034304 | 0. 194563 |
| AC005256. 1     | 1. 355610382 | 0. 43894259   | 0. 031048397 | 0. 194563 |
| TUBE1           | 0. 759845847 | -0. 396221331 | 0. 031056847 | 0. 194563 |
| KANSL1L         | 0. 768943666 | -0. 379050186 | 0. 031073115 | 0. 19459  |
| ASCL5           | 1. 89469277  | 0. 92196393   | 0. 03111097  | 0. 194753 |
| NHP2L1          | 1. 209742708 | 0. 274700243  | 0. 031142364 | 0. 194875 |
| PSMG1           | 1. 224589432 | 0. 292298138  | 0. 031171366 | 0. 194982 |
| FAHD2A          | 0. 728363648 | -0. 457269175 | 0. 031193368 | 0. 195045 |
| PSD2            | 0. 668330763 | -0. 581365812 | 0. 031216324 | 0. 195114 |
| HIC2            | 0. 777256344 | -0. 363537608 | 0. 031232319 | 0. 195139 |
| AC024580. 1     | 0. 377492122 | -1. 405481557 | 0. 031256058 | 0. 195213 |
| CYTH2           | 0. 810042206 | -0. 303931016 | 0. 031283123 | 0. 195269 |
| TAGLN2          | 1. 207771856 | 0. 27234796   | 0. 031288866 | 0. 195269 |
| TRMU            | 0. 816057691 | -0. 293256948 | 0. 031347602 | 0. 195488 |
| L3MBTL2         | 0. 799403396 | -0. 323004393 | 0. 031347762 | 0. 195488 |
| SRC             | 0. 817527053 | -0. 290661623 | 0. 031427214 | 0. 195909 |
| SF3B5           | 1. 211737709 | 0. 277077449  | 0. 031469069 | 0. 196095 |
| SLC22A23        | 0. 800071529 | -0. 321799108 | 0. 031513068 | 0. 196294 |
| RP11-4104. 1    | 1. 932503403 | 0. 950470954  | 0. 031543625 | 0. 19641  |
| GPR135          | 0. 479691164 | -1. 059822229 | 0. 031572304 | 0. 196514 |
| ZXDA            | 0. 606484626 | -0. 72145702  | 0. 031618338 | 0. 196709 |
| CLCN7           | 0. 810286569 | -0. 303495868 | 0. 031627624 | 0. 196709 |
| AP001469. 5     | 0. 605649637 | -0. 723444646 | 0. 031656533 | 0. 196791 |
| AREL1           | 0. 822390815 | -0. 282103942 | 0. 031664859 | 0. 196791 |
| CTB-5506. 12    | 0. 750090541 | -0. 414863345 | 0. 0316879   | 0. 196797 |
| CYP39A1         | 1. 966114709 | 0. 975347495  | 0. 031689948 | 0. 196797 |
| RP4-781K5. 2    | 1. 272223756 | 0. 347352431  | 0. 031754843 | 0. 197126 |
| CCDC136         | 0. 769157345 | -0. 378649337 | 0. 031841203 | 0. 197506 |
| ZNF497          | 0. 573348043 | -0. 802516923 | 0. 031849622 | 0. 197506 |
| TXK             | 0. 614613868 | -0. 702247774 | 0. 031852292 | 0. 197506 |
| NAT9            | 0. 818413138 | -0. 28909879  | 0. 031887283 | 0. 197648 |
| MAGEB2          | 1. 210426864 | 0. 275515912  | 0. 031919187 | 0. 197771 |

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|-----------------|--------------|---------------|--------------|-----------|
| DUSP6           | 1. 213181619 | 0. 278795545  | 0. 031979329 | 0. 198008 |
| CHD8            | 0. 829942172 | -0. 268917278 | 0. 031990918 | 0. 198008 |
| IGF1R           | 0. 79625687  | -0. 328694179 | 0. 031993704 | 0. 198008 |
| LRRC42          | 1. 211498874 | 0. 276793064  | 0. 03203396  | 0. 198113 |
| ARFGEF1         | 0. 808743313 | -0. 306246216 | 0. 032038666 | 0. 198113 |
| RP11-53019. 3   | 0. 651078482 | -0. 619096637 | 0. 032046962 | 0. 198113 |
| RP11-12J10. 3   | 0. 420183669 | -1. 250908004 | 0. 032079833 | 0. 198241 |
| HEATR5B         | 0. 798202455 | -0. 325173379 | 0. 032127368 | 0. 19846  |
| CDC37           | 0. 766959145 | -0. 382778366 | 0. 032167354 | 0. 198562 |
| POMT1           | 0. 790398194 | -0. 339348444 | 0. 03216808  | 0. 198562 |
| CCDC93          | 0. 768482812 | -0. 379915102 | 0. 032235902 | 0. 198878 |
| DYNLT3          | 1. 276409746 | 0. 352091529  | 0. 032275343 | 0. 198878 |
| KLHDC3          | 1. 209417431 | 0. 274312278  | 0. 032277989 | 0. 198878 |
| CTD-2583A14. 8  | 0. 557764671 | -0. 842271538 | 0. 03227996  | 0. 198878 |
| PTP4A1          | 1. 210461627 | 0. 275557345  | 0. 032280034 | 0. 198878 |
| SYCP2L          | 0. 644383819 | -0. 634007828 | 0. 03230376  | 0. 198949 |
| ORMDL1          | 1. 249481106 | 0. 321329085  | 0. 032324946 | 0. 19896  |
| GSK3B           | 0. 810260757 | -0. 303541826 | 0. 032329758 | 0. 19896  |
| B3GNT9          | 1. 390303901 | 0. 47540027   | 0. 032351897 | 0. 199021 |
| ADAMTS2         | 0. 739326963 | -0. 435715566 | 0. 032398577 | 0. 199192 |
| GIT2            | 0. 806951798 | -0. 309445597 | 0. 032409733 | 0. 199192 |
| REST            | 0. 818208235 | -0. 289460037 | 0. 032416216 | 0. 199192 |
| SCAND1          | 1. 248701222 | 0. 320428323  | 0. 032517563 | 0. 19974  |
| GADD45GIP1      | 1. 207946673 | 0. 272556765  | 0. 032548853 | 0. 199858 |
| MARCKS          | 1. 228382351 | 0. 296759689  | 0. 032613065 | 0. 200169 |
| RPL12           | 0. 78680075  | -0. 345929763 | 0. 032623982 | 0. 200169 |
| NFATC2IP        | 0. 824787232 | -0. 277906095 | 0. 032644367 | 0. 200219 |
| CTB-31020. 2    | 1. 533741047 | 0. 617054922  | 0. 032684214 | 0. 200304 |
| RP1-102K2. 6    | 2. 914658705 | 1. 54332696   | 0. 032688425 | 0. 200304 |
| ANK3            | 0. 771507589 | -0. 374247747 | 0. 032708295 | 0. 200304 |
| POLR2E          | 1. 204453539 | 0. 268378743  | 0. 032711561 | 0. 200304 |
| RANBP2          | 0. 829398117 | -0. 269863324 | 0. 03271934  | 0. 200304 |
| PRPF4B          | 0. 822223048 | -0. 282398282 | 0. 032738535 | 0. 200346 |
| BDNF-AS         | 0. 701623625 | -0. 511230768 | 0. 03275894  | 0. 200396 |
| ITPR3           | 0. 826326844 | -0. 275215559 | 0. 032793961 | 0. 200435 |
| RP1-228H13. 5   | 0. 463694277 | -1. 108754173 | 0. 032796995 | 0. 200435 |
| CENPL           | 1. 328718446 | 0. 410035432  | 0. 03280202  | 0. 200435 |
| DHRS3           | 1. 238502864 | 0. 308597205  | 0. 032829133 | 0. 200526 |
| CLCF1           | 1. 406107344 | 0. 491706735  | 0. 032849975 | 0. 200578 |
| ITSN1           | 0. 800501954 | -0. 32102317  | 0. 032880182 | 0. 200618 |
| ADAMTSL5        | 0. 793690089 | -0. 333352305 | 0. 03288097  | 0. 200618 |
| ITGB3BP         | 1. 231563428 | 0. 300490932  | 0. 032903199 | 0. 200679 |
| TRIM2           | 0. 820061393 | -0. 286196175 | 0. 03291681  | 0. 200687 |
| CTC-30107. 4    | 0. 60294222  | -0. 729908341 | 0. 032959058 | 0. 20087  |
| RPS6            | 0. 744762372 | -0. 42514791  | 0. 032972205 | 0. 200875 |
| MAGEA3          | 1. 443532866 | 0. 529603955  | 0. 033019209 | 0. 20103  |
| ZMYM3           | 0. 814930316 | -0. 295251393 | 0. 033022092 | 0. 20103  |
| TTYH2           | 0. 798040407 | -0. 325466299 | 0. 033072332 | 0. 201201 |
| RP11-793H13. 11 | 2. 159856984 | 1. 110935787  | 0. 033074807 | 0. 201201 |
| RASAL1          | 0. 783175791 | -0. 352591925 | 0. 033144438 | 0. 201534 |
| FZD7            | 1. 250380507 | 0. 322367192  | 0. 033154205 | 0. 201534 |
| TRAM2-AS1       | 1. 498932578 | 0. 583935492  | 0. 033271119 | 0. 20217  |
| PLCH2           | 0. 674682154 | -0. 567720094 | 0. 033322922 | 0. 20235  |
| RP13-58209. 7   | 2. 545823781 | 1. 348132561  | 0. 033325464 | 0. 20235  |

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|----------------|--------------|---------------|--------------|-----------|
| MFSD2B         | 2. 470653395 | 1. 304892631  | 0. 033374638 | 0. 202536 |
| CECR6          | 2. 498150387 | 1. 320860329  | 0. 033380869 | 0. 202536 |
| PFDN4          | 1. 568592259 | 0. 649470386  | 0. 033443855 | 0. 202781 |
| IRF2BP2        | 1. 22539868  | 0. 293251202  | 0. 033445906 | 0. 202781 |
| ARF1           | 1. 216952179 | 0. 283272477  | 0. 033485417 | 0. 202864 |
| CTA-984G1. 5   | 0. 496261233 | -1. 010828336 | 0. 033493748 | 0. 202864 |
| RP3-325F22. 5  | 2. 460272058 | 1. 298817858  | 0. 033503091 | 0. 202864 |
| CTNNAL1        | 1. 208289653 | 0. 272966341  | 0. 033509218 | 0. 202864 |
| DNAH100S       | 1. 60852036  | 0. 685734197  | 0. 033525381 | 0. 202887 |
| PROCR          | 1. 224203211 | 0. 291843057  | 0. 033561096 | 0. 203028 |
| CNN2           | 1. 202269816 | 0. 265760705  | 0. 033587387 | 0. 203112 |
| TNS3           | 0. 806155538 | -0. 310869878 | 0. 033607812 | 0. 20316  |
| LTBP3          | 0. 824085809 | -0. 279133528 | 0. 033709837 | 0. 203702 |
| ID1            | 0. 8237144   | -0. 279783885 | 0. 033732837 | 0. 203766 |
| JRK            | 0. 819486249 | -0. 287208354 | 0. 033759189 | 0. 20385  |
| CEP290         | 0. 800639309 | -0. 320775645 | 0. 033772933 | 0. 203858 |
| APEX1          | 1. 209496167 | 0. 274406198  | 0. 033836156 | 0. 204164 |
| BBS1           | 0. 582212591 | -0. 780382056 | 0. 033919758 | 0. 204552 |
| ID3            | 0. 825970372 | -0. 275838062 | 0. 033930653 | 0. 204552 |
| INPP5E         | 0. 798058288 | -0. 325433975 | 0. 033941083 | 0. 204552 |
| METTL21B       | 1. 409396639 | 0. 495077678  | 0. 033961726 | 0. 204552 |
| RP11-680F8. 3  | 2. 25118494  | 1. 170684582  | 0. 033975263 | 0. 204552 |
| SLC25A5        | 1. 208933015 | 0. 27373431   | 0. 033975349 | 0. 204552 |
| CLTA           | 1. 209130537 | 0. 273970005  | 0. 034007793 | 0. 204672 |
| RNF7           | 1. 251989873 | 0. 324222893  | 0. 034037341 | 0. 204774 |
| CCDC96         | 2. 263756643 | 1. 178718875  | 0. 034051115 | 0. 204782 |
| YWHAE          | 1. 220485075 | 0. 287454652  | 0. 034070192 | 0. 204821 |
| MYL12A         | 1. 20610643  | 0. 27035722   | 0. 034096519 | 0. 204889 |
| KLF3           | 0. 798043197 | -0. 325461254 | 0. 034106464 | 0. 204889 |
| TRIM62         | 0. 750918945 | -0. 413270906 | 0. 034140056 | 0. 204961 |
| KIAA0895L      | 0. 770433324 | -0. 376257988 | 0. 034143464 | 0. 204961 |
| IL18BP         | 0. 80817685  | -0. 307257068 | 0. 034225171 | 0. 205376 |
| RP11-867G23. 8 | 0. 758666807 | -0. 398461676 | 0. 034243838 | 0. 205413 |
| U2AF2          | 1. 209012573 | 0. 273829247  | 0. 034261107 | 0. 205441 |
| RAB3GAP2       | 0. 815100154 | -0. 294950756 | 0. 0342736   | 0. 205441 |
| CTD-2525I3. 3  | 1. 237403266 | 0. 307315747  | 0. 034331419 | 0. 205662 |
| ZNF778         | 0. 749612367 | -0. 415783339 | 0. 034335635 | 0. 205662 |
| MELK           | 1. 211181426 | 0. 276414987  | 0. 034368594 | 0. 205784 |
| AC006486. 1    | 2. 064230401 | 1. 045604007  | 0. 034384395 | 0. 205804 |
| CCDC11         | 0. 653255996 | -0. 614279633 | 0. 034401847 | 0. 205833 |
| SYAP1          | 1. 214083022 | 0. 27986708   | 0. 034502847 | 0. 206324 |
| EEF1A2         | 1. 215099965 | 0. 281075008  | 0. 034509092 | 0. 206324 |
| N4BP2L2        | 0. 821844339 | -0. 283062928 | 0. 034525655 | 0. 206347 |
| RXRA           | 0. 821441066 | -0. 283771022 | 0. 034543719 | 0. 20638  |
| RPL7           | 0. 757565873 | -0. 400556753 | 0. 034662616 | 0. 206947 |
| CBX2           | 0. 823347187 | -0. 280427184 | 0. 034663798 | 0. 206947 |
| TMEM131        | 0. 825443517 | -0. 276758596 | 0. 034707516 | 0. 207111 |
| RP11-484N16. 1 | 1. 888382015 | 0. 917150648  | 0. 034727833 | 0. 207111 |
| RP11-383C5. 7  | 0. 680217292 | -0. 555932413 | 0. 034729245 | 0. 207111 |
| GRIN3A         | 0. 486475814 | -1. 039560014 | 0. 034759488 | 0. 207216 |
| RP11-2C24. 6   | 0. 771342436 | -0. 37455661  | 0. 03481505  | 0. 207471 |
| C1RL-AS1       | 0. 746374233 | -0. 422028915 | 0. 03484456  | 0. 207572 |
| MSANTD2        | 0. 726986898 | -0. 459998731 | 0. 034861624 | 0. 207598 |
| ZNF850         | 0. 479874545 | -1. 059270807 | 0. 034899087 | 0. 207745 |

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| RP11-395I14. 2  | 0. 478909808 | -1. 062174112 | 0. 034912373 | 0. 207749 |
| RP11-423H2. 3   | 0. 427765455 | -1. 225108117 | 0. 034930327 | 0. 20778  |
| MRPL15          | 1. 223642038 | 0. 291181576  | 0. 034948517 | 0. 207813 |
| CCND3           | 1. 219599112 | 0. 286407005  | 0. 034975192 | 0. 207896 |
| KALRN           | 0. 705235594 | -0. 503822804 | 0. 034998927 | 0. 207901 |
| MCM2            | 1. 208360559 | 0. 273051001  | 0. 035001399 | 0. 207901 |
| CDK6            | 0. 835491907 | -0. 25930224  | 0. 035040542 | 0. 208058 |
| FBX06           | 1. 265052686 | 0. 33919747   | 0. 03506236  | 0. 208112 |
| BAMBI           | 1. 35615894  | 0. 439526271  | 0. 035087617 | 0. 208187 |
| RP11-1151B14. 4 | 0. 710947446 | -0. 492185176 | 0. 035116146 | 0. 20828  |
| TMEM208         | 1. 258471971 | 0. 331673084  | 0. 035187037 | 0. 208602 |
| BACH2           | 0. 698309842 | -0. 518060788 | 0. 035195783 | 0. 208602 |
| RP11-1391J7. 1  | 0. 575530751 | -0. 797035079 | 0. 035258838 | 0. 2089   |
| CELF1           | 0. 831103255 | -0. 266900368 | 0. 035321829 | 0. 209106 |
| HOXC11          | 1. 940513531 | 0. 956438493  | 0. 035327112 | 0. 209106 |
| RAB17           | 0. 807711988 | -0. 308087143 | 0. 035333757 | 0. 209106 |
| RP11-438N16. 1  | 1. 249719836 | 0. 321604705  | 0. 035344754 | 0. 209106 |
| ALO49840. 1     | 0. 714190209 | -0. 485619739 | 0. 035489935 | 0. 209889 |
| GFER            | 1. 234579178 | 0. 304019364  | 0. 035538117 | 0. 210098 |
| GGT7            | 0. 731479332 | -0. 451110993 | 0. 035555125 | 0. 210123 |
| PAPD7           | 0. 821229895 | -0. 284141949 | 0. 035603425 | 0. 210329 |
| STK11IP         | 0. 813618706 | -0. 297575245 | 0. 035615686 | 0. 210329 |
| EAF2            | 1. 523859137 | 0. 607729549  | 0. 035639791 | 0. 210396 |
| RP11-383J24. 6  | 0. 653972765 | -0. 61269754  | 0. 035668739 | 0. 210491 |
| UNC5B           | 0. 82024193  | -0. 285878599 | 0. 035691344 | 0. 210537 |
| MRPL40          | 1. 224859012 | 0. 292615696  | 0. 035702244 | 0. 210537 |
| FOXJ3           | 0. 8247454   | -0. 277979268 | 0. 035725549 | 0. 210557 |
| THNSL1          | 1. 361829173 | 0. 445545744  | 0. 035731479 | 0. 210557 |
| SGSM3           | 0. 821227238 | -0. 284146616 | 0. 035771157 | 0. 210718 |
| ADAM22          | 0. 7958836   | -0. 329370647 | 0. 035808982 | 0. 210862 |
| HNRNPH3         | 1. 206474229 | 0. 270797099  | 0. 035833935 | 0. 210875 |
| PNKP            | 0. 808229842 | -0. 307162474 | 0. 035836972 | 0. 210875 |
| SLC8B1          | 0. 81283193  | -0. 298971019 | 0. 035858333 | 0. 210925 |
| ARRDC2          | 1. 234031424 | 0. 303379132  | 0. 035894172 | 0. 21106  |
| SESTD1          | 0. 819097432 | -0. 287893024 | 0. 035997293 | 0. 211591 |
| CHMP5           | 1. 251355155 | 0. 323491308  | 0. 036022891 | 0. 211633 |
| TPM3            | 1. 202947655 | 0. 266573866  | 0. 036030329 | 0. 211633 |
| AC139887. 4     | 0. 720783917 | -0. 472361274 | 0. 036048903 | 0. 211666 |
| DLL1            | 1. 312727696 | 0. 392567684  | 0. 036080324 | 0. 211775 |
| MT1E            | 1. 27230344  | 0. 347442789  | 0. 036118847 | 0. 211922 |
| PSMB1           | 1. 212284045 | 0. 27772777   | 0. 036131291 | 0. 211922 |
| C9orf40         | 1. 267725597 | 0. 342242504  | 0. 036151137 | 0. 211962 |
| PROX2           | 0. 496555031 | -1. 00997448  | 0. 036206162 | 0. 212134 |
| GABRR2          | 2. 497475246 | 1. 320470379  | 0. 036206283 | 0. 212134 |
| SPG11           | 0. 814214026 | -0. 29652002  | 0. 036225473 | 0. 21217  |
| KEAP1           | 1. 212180324 | 0. 27760433   | 0. 036253781 | 0. 21226  |
| ZNF697          | 0. 741199288 | -0. 432066599 | 0. 036284171 | 0. 212362 |
| C4orf26         | 2. 506904024 | 1. 325906764  | 0. 03629814  | 0. 212368 |
| BTBD9           | 0. 747919977 | -0. 419044177 | 0. 036326819 | 0. 21246  |
| UBE3B           | 0. 811868849 | -0. 300681404 | 0. 036345917 | 0. 212496 |
| PI4KA           | 0. 826633614 | -0. 274680064 | 0. 036381127 | 0. 212626 |
| RP11-82L2. 1    | 2. 547572331 | 1. 349123108  | 0. 036397714 | 0. 212647 |
| ZNF195          | 0. 808215607 | -0. 307187883 | 0. 036421545 | 0. 21271  |
| TMEM109         | 1. 225178863 | 0. 292992382  | 0. 036471875 | 0. 212928 |

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| WRAP53          | 1. 221534712 | 0. 288694861  | 0. 036567736 | 0. 213412 |
| MDH1            | 1. 203151067 | 0. 266817798  | 0. 036659974 | 0. 213852 |
| IL11RA          | 0. 758461173 | -0. 398852767 | 0. 03666929  | 0. 213852 |
| DNMT3B          | 0. 800664489 | -0. 320730273 | 0. 036746729 | 0. 214124 |
| C9orf72         | 1. 302448182 | 0. 381225975  | 0. 036791159 | 0. 214124 |
| RP11-390K5. 6   | 0. 350025712 | -1. 514467193 | 0. 036793839 | 0. 214124 |
| PTPRM           | 0. 369170616 | -1. 437640367 | 0. 036793839 | 0. 214124 |
| RP11-379K22. 2  | 0. 375179771 | -1. 414346053 | 0. 036793839 | 0. 214124 |
| C11orf83        | 1. 232747798 | 0. 301877675  | 0. 036794395 | 0. 214124 |
| ABRACL          | 1. 224187526 | 0. 291824573  | 0. 036846827 | 0. 214353 |
| UQCRQ           | 1. 205976156 | 0. 270201383  | 0. 036874914 | 0. 214412 |
| AP006621. 5     | 0. 699123173 | -0. 51638144  | 0. 036888286 | 0. 214412 |
| LINC00243       | 1. 672790991 | 0. 742257197  | 0. 036897447 | 0. 214412 |
| HNRNPLL         | 1. 219395341 | 0. 286165939  | 0. 036924075 | 0. 214412 |
| RP11-1055B8. 8  | 0. 686155047 | -0. 543393484 | 0. 036941091 | 0. 214412 |
| MDM4            | 0. 818984754 | -0. 2880915   | 0. 03695649  | 0. 214412 |
| MED1            | 0. 835535938 | -0. 259226212 | 0. 036963365 | 0. 214412 |
| ZNF724P         | 1. 844238626 | 0. 883025338  | 0. 036969674 | 0. 214412 |
| ANKHD1-EIF4EBP3 | 1. 834363697 | 0. 875279708  | 0. 03697485  | 0. 214412 |
| GNMT            | 1. 851579554 | 0. 888756537  | 0. 037005276 | 0. 214513 |
| MAU2            | 0. 814149193 | -0. 296634902 | 0. 037035395 | 0. 214581 |
| FAM63B          | 0. 819434389 | -0. 287299655 | 0. 037055642 | 0. 214581 |
| MRPL42          | 1. 211448876 | 0. 276733523  | 0. 037068128 | 0. 214581 |
| ZNF451          | 0. 820865755 | -0. 284781793 | 0. 037079724 | 0. 214581 |
| BTAF1           | 0. 834421679 | -0. 261151454 | 0. 037102464 | 0. 214581 |
| SP5             | 0. 810776204 | -0. 302624348 | 0. 037107652 | 0. 214581 |
| IFT27           | 0. 800091121 | -0. 321763779 | 0. 037108751 | 0. 214581 |
| LLOXNC01-7P3. 1 | 0. 541784519 | -0. 884208925 | 0. 037151397 | 0. 214726 |
| AGA             | 1. 344042093 | 0. 426578321  | 0. 037160136 | 0. 214726 |
| ATP6VOA2        | 0. 779931341 | -0. 358580969 | 0. 03718283  | 0. 214774 |
| AZI2            | 1. 2635866   | 0. 337524543  | 0. 037194592 | 0. 214774 |
| GAD1            | 0. 826431443 | -0. 27503295  | 0. 03729458  | 0. 215192 |
| RAB3A           | 1. 302004521 | 0. 380734458  | 0. 037300797 | 0. 215192 |
| IL17D           | 1. 4691926   | 0. 555023534  | 0. 037306501 | 0. 215192 |
| BUD31           | 1. 209663983 | 0. 274606355  | 0. 037353698 | 0. 215389 |
| METTL9          | 1. 210738436 | 0. 275887224  | 0. 037403286 | 0. 215486 |
| RAB28           | 1. 323921608 | 0. 404817699  | 0. 037414419 | 0. 215486 |
| CEP152          | 0. 81780459  | -0. 290171934 | 0. 037425125 | 0. 215486 |
| EPHB4           | 0. 827939659 | -0. 272402469 | 0. 037427516 | 0. 215486 |
| ENTPD7          | 0. 76003927  | -0. 395854132 | 0. 03744334  | 0. 215486 |
| AC138969. 4     | 0. 530916188 | -0. 913443965 | 0. 037449471 | 0. 215486 |
| RP11-77403. 3   | 1. 565685284 | 0. 646794248  | 0. 037466209 | 0. 215506 |
| AGTPBP1         | 0. 777276622 | -0. 36349997  | 0. 037492203 | 0. 215567 |
| HLCS            | 0. 800991604 | -0. 320140974 | 0. 037503133 | 0. 215567 |
| OPLAH           | 0. 804981267 | -0. 312972885 | 0. 037620023 | 0. 216103 |
| XRCC3           | 0. 82313089  | -0. 280806236 | 0. 03762266  | 0. 216103 |
| TMEM9B          | 1. 227761305 | 0. 296030106  | 0. 037733872 | 0. 216665 |
| ANKRA2          | 1. 277227611 | 0. 353015647  | 0. 037848091 | 0. 217201 |
| RANGRF          | 1. 230978392 | 0. 299805438  | 0. 037853674 | 0. 217201 |
| RP13-20L14. 1   | 0. 414170937 | -1. 271701774 | 0. 037879456 | 0. 217273 |
| DGKA            | 0. 814545806 | -0. 295932264 | 0. 037900504 | 0. 217311 |
| PTPRS           | 0. 83025926  | -0. 268366187 | 0. 037912594 | 0. 217311 |
| CLP1            | 1. 251156995 | 0. 32326283   | 0. 037926829 | 0. 217316 |
| AC078883. 3     | 0. 644508979 | -0. 633727636 | 0. 038046332 | 0. 217925 |

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|-----------------|-------------|--------------|-------------|----------|
| MED12           | 0.806021883 | -0.311109088 | 0.038065022 | 0.217956 |
| CCT2            | 1.220651139 | 0.287650938  | 0.038270444 | 0.219055 |
| SEMA3B          | 0.802927955 | -0.316657552 | 0.038293615 | 0.219111 |
| TTC37           | 0.82457789  | -0.278272318 | 0.03833053  | 0.219176 |
| CENPK           | 1.284066593 | 0.360720024  | 0.038331683 | 0.219176 |
| RP11-304L19.1   | 0.705752184 | -0.502766406 | 0.038370276 | 0.219266 |
| RP11-2B6.2      | 0.475129211 | -1.073608189 | 0.038374653 | 0.219266 |
| PPAP2C          | 1.199945166 | 0.26296848   | 0.038387607 | 0.219266 |
| RP11-228B15.4   | 0.710486018 | -0.493121838 | 0.038487411 | 0.219729 |
| ZNF827          | 0.785161579 | -0.348938516 | 0.038503198 | 0.219729 |
| AP001468.1      | 0.468040965 | -1.09529329  | 0.038508884 | 0.219729 |
| ACSF3           | 0.819188272 | -0.287733034 | 0.038546443 | 0.219866 |
| DLL4            | 1.607702983 | 0.685000899  | 0.038587638 | 0.220025 |
| ADCK5           | 0.796455744 | -0.328333895 | 0.038610675 | 0.220054 |
| MTUS1           | 0.834994209 | -0.260161902 | 0.038648301 | 0.220054 |
| SHROOM1         | 0.764580734 | -0.387259247 | 0.038673213 | 0.220054 |
| ZFYVE28         | 0.799734393 | -0.322407163 | 0.038673761 | 0.220054 |
| XXbac-BPG252P9. | 1.196674242 | 0.259030477  | 0.038677231 | 0.220054 |
| PCSK7           | 0.812661307 | -0.29927389  | 0.03868775  | 0.220054 |
| WDR81           | 0.776127372 | -0.36563466  | 0.038696219 | 0.220054 |
| RP11-429J17.2   | 0.685089503 | -0.545635614 | 0.038700189 | 0.220054 |
| ABHD2           | 0.826659538 | -0.274634821 | 0.038748027 | 0.220248 |
| PPIF            | 1.202700625 | 0.266277573  | 0.038761285 | 0.220248 |
| SGK494          | 0.562095624 | -0.831112512 | 0.038793381 | 0.220354 |
| UFD1L           | 0.807978115 | -0.307611878 | 0.038872767 | 0.220728 |
| AC002117.1      | 1.311402336 | 0.391110369  | 0.038888504 | 0.220741 |
| TM7SF3          | 1.21335727  | 0.279004411  | 0.038921764 | 0.220786 |
| RP11-432J22.2   | 0.44459043  | -1.1694512   | 0.038923305 | 0.220786 |
| AC016644.1      | 0.46058068  | -1.118474199 | 0.038938612 | 0.220796 |
| SETD1A          | 0.819735353 | -0.286769875 | 0.039036819 | 0.221276 |
| DDX42           | 0.833854336 | -0.262132711 | 0.039108322 | 0.221514 |
| GDPD5           | 0.811494283 | -0.301347164 | 0.039112313 | 0.221514 |
| RP11-148021.2   | 0.454701605 | -1.137008    | 0.039124322 | 0.221514 |
| ING5            | 0.819786654 | -0.286679591 | 0.039147935 | 0.221514 |
| WWC2            | 0.817973889 | -0.289873305 | 0.039158885 | 0.221514 |
| ANKRD6          | 0.780292721 | -0.357912653 | 0.039159991 | 0.221514 |
| ZNF552          | 0.734942883 | -0.444295961 | 0.039243591 | 0.221772 |
| RP11-1038A11.1  | 0.463136231 | -1.110491473 | 0.0392439   | 0.221772 |
| STMN1           | 1.226175852 | 0.294165898  | 0.039263945 | 0.221772 |
| PYROXD2         | 0.764489556 | -0.387431303 | 0.039274948 | 0.221772 |
| CTD-2561B21.5   | 1.896383745 | 0.923250932  | 0.039278803 | 0.221772 |
| SLC25A17        | 1.261491726 | 0.335130744  | 0.039293387 | 0.221772 |
| RP11-139H15.1   | 1.511152061 | 0.59564884   | 0.039300264 | 0.221772 |
| RP11-417F21.1   | 0.44784184  | -1.158938776 | 0.039339667 | 0.221917 |
| KRTAP4-16P      | 1.966591634 | 0.97569741   | 0.039411015 | 0.222217 |
| ADIPOR1         | 1.202206226 | 0.265684396  | 0.039419933 | 0.222217 |
| PRODH           | 0.722453917 | -0.469022529 | 0.039437152 | 0.222238 |
| PPARG           | 1.282070681 | 0.3584758    | 0.039466281 | 0.222265 |
| ZSCAN12         | 1.650004511 | 0.722469969  | 0.03949668  | 0.222265 |
| SAFB2           | 0.819122084 | -0.287849603 | 0.039501126 | 0.222265 |
| MTX1            | 1.278784281 | 0.354772916  | 0.039509347 | 0.222265 |
| CCDC91          | 1.284441468 | 0.361141148  | 0.039509853 | 0.222265 |
| C1GALT1         | 0.780268738 | -0.357956996 | 0.039551139 | 0.222421 |
| RHOC            | 1.197756885 | 0.260335107  | 0.039630186 | 0.22276  |

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| RFC4           | 1. 208295082 | 0. 272972823  | 0. 039638613 | 0. 22276  |
| F5             | 0. 557464422 | -0. 843048362 | 0. 039722332 | 0. 223098 |
| CBR3           | 1. 436188788 | 0. 522245405  | 0. 039725988 | 0. 223098 |
| PPP1R9B        | 0. 833539471 | -0. 262677578 | 0. 039768745 | 0. 223193 |
| UGDH           | 1. 221815957 | 0. 289026987  | 0. 039770232 | 0. 223193 |
| COMMD4         | 1. 208764131 | 0. 273532756  | 0. 039790867 | 0. 223232 |
| DLG5           | 0. 831787843 | -0. 265712495 | 0. 039811018 | 0. 223269 |
| MLH3           | 0. 733903162 | -0. 446338382 | 0. 039839422 | 0. 223322 |
| GXYLT2         | 0. 724557387 | -0. 464828136 | 0. 039857116 | 0. 223322 |
| RAD50          | 0. 828954167 | -0. 270635758 | 0. 039873905 | 0. 223322 |
| PTS            | 1. 272509762 | 0. 347676724  | 0. 039885386 | 0. 223322 |
| DANCR          | 1. 219704198 | 0. 286531308  | 0. 039899826 | 0. 223322 |
| TRAPPC9        | 0. 776267659 | -0. 365373912 | 0. 039907095 | 0. 223322 |
| CELF2          | 0. 780885057 | -0. 356817889 | 0. 039926098 | 0. 223322 |
| SCAF11         | 0. 823468892 | -0. 280213944 | 0. 039929641 | 0. 223322 |
| MRPL12         | 1. 258803507 | 0. 332053104  | 0. 039956435 | 0. 223396 |
| ZMYM1          | 0. 806082123 | -0. 311001268 | 0. 039977028 | 0. 223435 |
| PSMB5          | 1. 198748131 | 0. 261528566  | 0. 040074124 | 0. 223868 |
| TOP3A          | 0. 812625447 | -0. 299337552 | 0. 040081822 | 0. 223868 |
| NIPBL          | 0. 826027885 | -0. 27573761  | 0. 04014076  | 0. 224016 |
| DNAJC7         | 1. 249983876 | 0. 321909485  | 0. 040149025 | 0. 224016 |
| SFR1           | 1. 367759811 | 0. 451814905  | 0. 040161164 | 0. 224016 |
| RP11-552F3. 4  | 0. 714052078 | -0. 485898796 | 0. 040163169 | 0. 224016 |
| SNAPC2         | 1. 205839577 | 0. 270037986  | 0. 040196486 | 0. 224071 |
| PTPRF          | 0. 829315611 | -0. 270006845 | 0. 040201205 | 0. 224071 |
| RABGAP1        | 0. 81561659  | -0. 294036975 | 0. 040213947 | 0. 224071 |
| RP11-264B17. 2 | 0. 74544692  | -0. 423822467 | 0. 040250504 | 0. 224198 |
| TMEM145        | 0. 749727867 | -0. 415561068 | 0. 040380208 | 0. 224844 |
| AC005152. 2    | 0. 669188146 | -0. 579516204 | 0. 040459148 | 0. 225195 |
| C18orf56       | 1. 237399594 | 0. 307311465  | 0. 040470767 | 0. 225195 |
| PPL            | 0. 833686337 | -0. 262423404 | 0. 040488778 | 0. 225219 |
| SUGP2          | 0. 833934178 | -0. 261994577 | 0. 040527198 | 0. 225356 |
| RP11-301019. 1 | 2. 136298134 | 1. 095112998  | 0. 040639999 | 0. 225899 |
| ZNF333         | 0. 776121898 | -0. 365644834 | 0. 040652499 | 0. 225899 |
| SULT1C2        | 0. 602000451 | -0. 732163526 | 0. 040684516 | 0. 226001 |
| AC142528. 1    | 1. 648880202 | 0. 721486585  | 0. 040740701 | 0. 226128 |
| DCAF5          | 0. 821924196 | -0. 282922752 | 0. 040752523 | 0. 226128 |
| AKNAD1         | 2. 596001726 | 1. 376291343  | 0. 040762701 | 0. 226128 |
| SPATA41        | 2. 549728936 | 1. 350343881  | 0. 040762701 | 0. 226128 |
| DYRK1A         | 0. 812059953 | -0. 300341852 | 0. 040805435 | 0. 226229 |
| SELK           | 1. 30116389  | 0. 379802691  | 0. 040808535 | 0. 226229 |
| FAM160A1       | 0. 752930672 | -0. 409411064 | 0. 040920251 | 0. 226753 |
| UBAP2          | 0. 827322323 | -0. 273478585 | 0. 040930672 | 0. 226753 |
| ROMO1          | 1. 227836451 | 0. 296118405  | 0. 040959201 | 0. 226834 |
| ZNF765         | 0. 722864767 | -0. 46820232  | 0. 041051238 | 0. 227267 |
| PLIN5          | 0. 668562664 | -0. 580865305 | 0. 041150878 | 0. 227672 |
| GOLPH3L        | 1. 250832435 | 0. 322888535  | 0. 041154735 | 0. 227672 |
| ANXA2          | 1. 199133526 | 0. 261992315  | 0. 041166229 | 0. 227672 |
| IPO9           | 0. 837074144 | -0. 256572679 | 0. 041211848 | 0. 227848 |
| ANKRD34A       | 1. 528437155 | 0. 612057234  | 0. 041273019 | 0. 228109 |
| RP11-23P13. 4  | 0. 748037139 | -0. 418818195 | 0. 041329595 | 0. 228345 |
| C12orf45       | 1. 303284206 | 0. 382151726  | 0. 041372033 | 0. 228502 |
| PTPN23         | 0. 826847153 | -0. 27430743  | 0. 04139265  | 0. 228539 |
| ZC3H12C        | 0. 761696542 | -0. 392711748 | 0. 0414177   | 0. 2286   |



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| CTD-2235H24. 2 | 0. 770023192 | -0. 377026196 | 0. 041466001 | 0. 22879  |
| AC016629. 8    | 0. 716664942 | -0. 480629313 | 0. 041499709 | 0. 228898 |
| CTD-2358C21. 4 | 0. 530622898 | -0. 914241161 | 0. 041574325 | 0. 229233 |
| DPM1           | 1. 206366017 | 0. 270667694  | 0. 041626748 | 0. 229445 |
| EIF1B          | 1. 238704538 | 0. 30883211   | 0. 041707275 | 0. 229754 |
| BIN3           | 0. 812824489 | -0. 298984227 | 0. 041713736 | 0. 229754 |
| ALO22344. 7    | 2. 312386119 | 1. 209382317  | 0. 041724938 | 0. 229754 |
| CTD-2196E14. 4 | 0. 56834043  | -0. 815172748 | 0. 041767367 | 0. 22991  |
| GLTSCR1        | 0. 779714622 | -0. 358981905 | 0. 041799896 | 0. 230012 |
| CPXM1          | 2. 335015185 | 1. 223431932  | 0. 041925278 | 0. 230624 |
| CLK1           | 1. 213970221 | 0. 279733032  | 0. 041943134 | 0. 230645 |
| ERH            | 1. 198175322 | 0. 260839025  | 0. 041995256 | 0. 230854 |
| AVPI1          | 1. 27790783  | 0. 353783785  | 0. 042058869 | 0. 231126 |
| AES            | 1. 194593741 | 0. 256520068  | 0. 042108132 | 0. 231319 |
| ATP11B         | 0. 827509844 | -0. 273151621 | 0. 0421351   | 0. 231337 |
| CTDNEP1        | 1. 212424258 | 0. 277894623  | 0. 042139665 | 0. 231337 |
| EEF2K          | 0. 810120883 | -0. 303790897 | 0. 042158221 | 0. 231362 |
| RPS26          | 0. 704054468 | -0. 506241051 | 0. 042345653 | 0. 232281 |
| PCIF1          | 0. 801191179 | -0. 319781558 | 0. 042354127 | 0. 232281 |
| 7-Sep          | 1. 205912285 | 0. 270124973  | 0. 042369162 | 0. 232286 |
| GPS2           | 1. 226053949 | 0. 294022462  | 0. 042429143 | 0. 232537 |
| KCNT1          | 0. 470034259 | -1. 089162181 | 0. 042515181 | 0. 232879 |
| SLC3A2         | 1. 201981833 | 0. 265415091  | 0. 042520078 | 0. 232879 |
| AC084018. 1    | 1. 281277983 | 0. 357583513  | 0. 042602281 | 0. 233176 |
| CD302          | 0. 481215783 | -1. 055244134 | 0. 042602684 | 0. 233176 |
| TAZ            | 0. 788501875 | -0. 342813908 | 0. 042646636 | 0. 233285 |
| EXD3           | 0. 758446364 | -0. 398880935 | 0. 042665349 | 0. 233285 |
| BTRC           | 0. 822971858 | -0. 281084998 | 0. 042665364 | 0. 233285 |
| URB2           | 0. 803899712 | -0. 314912561 | 0. 042754583 | 0. 233663 |
| SCAMP3         | 1. 200407834 | 0. 263524639  | 0. 042763028 | 0. 233663 |
| HAT1           | 1. 197850738 | 0. 260448148  | 0. 042819655 | 0. 233789 |
| RP1-30M3. 5    | 1. 306131457 | 0. 385300105  | 0. 04283081  | 0. 233789 |
| CASP3          | 1. 275742441 | 0. 351337093  | 0. 042859277 | 0. 233789 |
| EREG           | 1. 212853967 | 0. 278405855  | 0. 042867825 | 0. 233789 |
| ZNF674-AS1     | 1. 442609646 | 0. 528680976  | 0. 04286965  | 0. 233789 |
| AHRR           | 0. 814849688 | -0. 295394139 | 0. 042871786 | 0. 233789 |
| TBC1D24        | 0. 807537651 | -0. 308398568 | 0. 042908655 | 0. 233912 |
| INHBE          | 2. 085715481 | 1. 060542369  | 0. 04292981  | 0. 23395  |
| MRPS25         | 0. 83433174  | -0. 261306965 | 0. 042960031 | 0. 234036 |
| C1QBP          | 1. 203889383 | 0. 267702839  | 0. 043016171 | 0. 234264 |
| CLDN1          | 2. 081799171 | 1. 0578309    | 0. 043051165 | 0. 234272 |
| SETD4          | 0. 793100829 | -0. 334423804 | 0. 043061186 | 0. 234272 |
| WDR78          | 1. 675186644 | 0. 744321845  | 0. 043065288 | 0. 234272 |
| ZNF45          | 0. 796347002 | -0. 328530884 | 0. 043074843 | 0. 234272 |
| PEBP1          | 1. 194485544 | 0. 256389394  | 0. 043096658 | 0. 234313 |
| LRG1           | 1. 794977662 | 0. 84396589   | 0. 043150624 | 0. 2345   |
| RAB2A          | 1. 197854385 | 0. 26045254   | 0. 043159729 | 0. 2345   |
| SPTBN2         | 0. 823617122 | -0. 279954272 | 0. 043198003 | 0. 23463  |
| PCMT1          | 1. 199596178 | 0. 262548831  | 0. 043246551 | 0. 234757 |
| AC012358. 8    | 0. 619377458 | -0. 691109217 | 0. 04324993  | 0. 234757 |
| CNIH1          | 1. 197992551 | 0. 260618938  | 0. 043359328 | 0. 235272 |
| DIP2B          | 0. 830133987 | -0. 268583883 | 0. 043407587 | 0. 235456 |
| LSM7           | 1. 195318457 | 0. 257395032  | 0. 04349208  | 0. 235774 |
| ZKSCAN8        | 0. 829422348 | -0. 269821174 | 0. 043494999 | 0. 235774 |

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| MOB1B         | 0.829252048 | -0.270117425 | 0.043534128 | 0.235908 |
| RAD51AP1      | 1.284110898 | 0.360769801  | 0.043569811 | 0.236021 |
| ENOPH1        | 1.219655491 | 0.286473695  | 0.04358948  | 0.236021 |
| YWHAB         | 1.195319431 | 0.257396208  | 0.043617342 | 0.236021 |
| CXorf38       | 0.764961959 | -0.38654009  | 0.043630434 | 0.236021 |
| GPR107        | 0.833713713 | -0.262376029 | 0.043630946 | 0.236021 |
| EHBP1L1       | 0.835928695 | -0.25854821  | 0.043646546 | 0.236021 |
| NEURL1B       | 0.823429788 | -0.280282455 | 0.043661565 | 0.236021 |
| ACAT2         | 1.210317798 | 0.275385912  | 0.043680666 | 0.236021 |
| TMEM136       | 1.265818371 | 0.340070411  | 0.043684595 | 0.236021 |
| BIK           | 1.269542297 | 0.344308462  | 0.043713194 | 0.236097 |
| UFC1          | 1.23113035  | 0.29998352   | 0.043797881 | 0.236477 |
| AGO2          | 0.82391259  | -0.279436807 | 0.04382184  | 0.236528 |
| EXOC3         | 0.828205509 | -0.271939297 | 0.043843858 | 0.236569 |
| FLVCR1        | 0.808876896 | -0.306007941 | 0.043860224 | 0.236579 |
| RP1-178F10.3  | 0.743578244 | -0.427443535 | 0.043921013 | 0.23674  |
| RP11-79P5.9   | 1.920337516 | 0.941359899  | 0.043927888 | 0.23674  |
| MRPL21        | 1.221184515 | 0.2882812    | 0.043933434 | 0.23674  |
| TXN           | 1.19587305  | 0.258064246  | 0.044058758 | 0.237338 |
| AATK          | 1.450142526 | 0.536194702  | 0.04408963  | 0.237401 |
| RP11-135A24.4 | 1.972144079 | 0.979764954  | 0.044112144 | 0.237401 |
| MMADHC        | 1.229049814 | 0.29754339   | 0.044120343 | 0.237401 |
| FKBP14        | 0.802436915 | -0.317540118 | 0.044128443 | 0.237401 |
| CTD-2302E22.2 | 0.587390293 | -0.76760867  | 0.044157965 | 0.237481 |
| FBXL18        | 0.776715052 | -0.364542671 | 0.044181775 | 0.237531 |
| CENPA         | 1.23536921  | 0.304942279  | 0.044199925 | 0.237551 |
| ABCA12        | 0.485506534 | -1.042437382 | 0.044401839 | 0.238499 |
| RP11-544A12.8 | 0.492155488 | -1.022813914 | 0.044405493 | 0.238499 |
| AP5M1         | 1.243401927 | 0.31429272   | 0.044460546 | 0.238598 |
| hsa-mir-6080  | 0.621593777 | -0.685956034 | 0.044461075 | 0.238598 |
| RP11-290F24.6 | 0.481488392 | -1.054427077 | 0.044473037 | 0.238598 |
| RP11-568J23.5 | 0.496994966 | -1.008696857 | 0.044499347 | 0.238598 |
| EPHX1         | 1.213214248 | 0.278834346  | 0.044525793 | 0.238598 |
| TPT1-AS1      | 0.71384673  | -0.486313747 | 0.044535647 | 0.238598 |
| COX6B1        | 1.205075515 | 0.269123555  | 0.044535701 | 0.238598 |
| ZC3H18        | 0.830139824 | -0.268573739 | 0.044540518 | 0.238598 |
| PSMC3IP       | 1.218469548 | 0.285070196  | 0.044600618 | 0.238842 |
| HOXA7         | 1.282200581 | 0.358621967  | 0.044694529 | 0.239267 |
| C1orf162      | 1.779247323 | 0.831267066  | 0.044752432 | 0.239499 |
| VWA5B2        | 0.806585458 | -0.310100699 | 0.04477031  | 0.239516 |
| PAX8          | 0.776417431 | -0.365095587 | 0.044916978 | 0.240222 |
| RP11-872D17.4 | 1.204339016 | 0.268241561  | 0.044931675 | 0.240222 |
| TUT1          | 1.27963393  | 0.355731152  | 0.044956589 | 0.240277 |
| POU2F2        | 1.617206849 | 0.693504219  | 0.044995368 | 0.240334 |
| ITGA2         | 0.84067128  | -0.250386308 | 0.044996593 | 0.240334 |
| BCL6          | 1.242060448 | 0.312735388  | 0.045049647 | 0.240466 |
| RP4-693M11.3  | 0.539486662 | -0.890340803 | 0.045053164 | 0.240466 |
| THOC7         | 1.212542427 | 0.278035228  | 0.04506529  | 0.240466 |
| HSP90AA1      | 1.282270305 | 0.358700416  | 0.04514553  | 0.240815 |
| CLIC1         | 1.191882198 | 0.253241651  | 0.045164003 | 0.240835 |
| PROM2         | 0.761000181 | -0.394031298 | 0.045191835 | 0.240905 |
| RP11-933H2.4  | 2.170135813 | 1.117785333  | 0.045209313 | 0.24092  |
| SLC27A5       | 1.26641025  | 0.340744837  | 0.045292703 | 0.241171 |
| AL441883.1    | 1.210801134 | 0.275961932  | 0.045301232 | 0.241171 |

|                |             |              |             |          |
|----------------|-------------|--------------|-------------|----------|
| ENO4           | 0.605101437 | -0.724751083 | 0.045304846 | 0.241171 |
| NIPSNAP3A      | 1.381992358 | 0.466749638  | 0.045315248 | 0.241171 |
| RBM12B-AS1     | 0.629772396 | -0.667097572 | 0.045359154 | 0.241326 |
| GSKIP          | 1.238508669 | 0.308603966  | 0.045382974 | 0.241374 |
| SUCLA2         | 1.25013587  | 0.322084901  | 0.045503233 | 0.241931 |
| PAF1           | 1.196135423 | 0.258380737  | 0.045517094 | 0.241931 |
| PEX3           | 1.317768266 | 0.39809669   | 0.04553949  | 0.241971 |
| C1orf63        | 1.201783529 | 0.265177055  | 0.045641774 | 0.242436 |
| WHSC1L1        | 0.835755938 | -0.258846395 | 0.045684158 | 0.242582 |
| FAM96B         | 1.201153547 | 0.264420587  | 0.045781483 | 0.24301  |
| SLC38A5        | 1.226772037 | 0.294867187  | 0.045794434 | 0.24301  |
| MSI2           | 0.839419573 | -0.252535992 | 0.045917741 | 0.243533 |
| RP11-527F13.1  | 0.398020514 | -1.329085306 | 0.045937549 | 0.243533 |
| CPO            | 0.387849381 | -1.366431597 | 0.045937549 | 0.243533 |
| PCNP           | 1.196140301 | 0.25838662   | 0.045974651 | 0.243576 |
| WIPI1          | 0.798589729 | -0.324473577 | 0.045979617 | 0.243576 |
| CPSF3L         | 0.83529338  | -0.25964509  | 0.045990247 | 0.243576 |
| RIOK3          | 1.207900127 | 0.272501173  | 0.046046488 | 0.243579 |
| IL6ST          | 0.827119069 | -0.273833066 | 0.046052482 | 0.243579 |
| MAP3K14        | 0.813916458 | -0.297047374 | 0.046063342 | 0.243579 |
| IGFBP5         | 2.398825287 | 1.262328086  | 0.046094309 | 0.243579 |
| SRP54          | 1.202127322 | 0.265589705  | 0.046098189 | 0.243579 |
| SIX5           | 1.248281928 | 0.319943808  | 0.04610131  | 0.243579 |
| SLC12A9        | 0.821098348 | -0.284373062 | 0.046108586 | 0.243579 |
| CTC-459F4.1    | 0.521205152 | -0.94007675  | 0.046109756 | 0.243579 |
| LIFR           | 0.816122009 | -0.293143246 | 0.046144519 | 0.24367  |
| NDUFS4         | 1.212076338 | 0.277480564  | 0.046156857 | 0.24367  |
| POMK           | 0.777009314 | -0.363996203 | 0.046181712 | 0.243723 |
| SNX10          | 1.22811894  | 0.296450289  | 0.046226159 | 0.24385  |
| PCYT1A         | 0.821057702 | -0.28444448  | 0.046235688 | 0.24385  |
| RNF121         | 0.805958045 | -0.311223355 | 0.046260849 | 0.243905 |
| ELL3           | 1.741946364 | 0.800700203  | 0.046287692 | 0.24394  |
| NRIP2          | 0.569205506 | -0.812978478 | 0.046310441 | 0.24394  |
| ECHS1          | 1.198879436 | 0.261686583  | 0.046320008 | 0.24394  |
| RP11-206L10.11 | 0.791001499 | -0.338247665 | 0.046327183 | 0.24394  |
| DSTN           | 1.189596905 | 0.250472799  | 0.046342634 | 0.243943 |
| N4BP2          | 0.76684355  | -0.382995823 | 0.04635809  | 0.243946 |
| CEMP1          | 0.786011621 | -0.347377452 | 0.04637323  | 0.243947 |
| CAV2           | 1.216170667 | 0.282345698  | 0.046400305 | 0.243949 |
| VIM-AS1        | 1.293682657 | 0.371483765  | 0.046403252 | 0.243949 |
| SNHG9          | 1.356817627 | 0.440226818  | 0.04642364  | 0.243977 |
| POLR2M         | 1.253844691 | 0.326358658  | 0.046513034 | 0.244369 |
| MMP11          | 1.274971864 | 0.35046541   | 0.046538625 | 0.244425 |
| LGR6           | 0.461207003 | -1.116513675 | 0.046560803 | 0.244444 |
| RFC5           | 1.194392916 | 0.256277514  | 0.046572216 | 0.244444 |
| CD7            | 0.456292802 | -1.131968199 | 0.046592252 | 0.244471 |
| RP11-524F11.1  | 0.474271031 | -1.076216344 | 0.046644574 | 0.244517 |
| CELSR1         | 0.83155593  | -0.266114793 | 0.04665079  | 0.244517 |
| MDK            | 1.201928186 | 0.265350699  | 0.046663384 | 0.244517 |
| LINC00926      | 0.465445975 | -1.103314374 | 0.046672065 | 0.244517 |
| POU5F1         | 0.469269092 | -1.091512655 | 0.046675548 | 0.244517 |
| LINC00887      | 2.404240866 | 1.265581438  | 0.046705005 | 0.244518 |
| LAPTM4A        | 1.193807429 | 0.255570137  | 0.04670569  | 0.244518 |
| BRIX1          | 1.2230945   | 0.290535875  | 0.046743374 | 0.244637 |

|                |             |              |             |          |
|----------------|-------------|--------------|-------------|----------|
| SLC12A7        | 0.824731197 | -0.278004113 | 0.04688782  | 0.245315 |
| CHD9           | 0.818169468 | -0.289528395 | 0.046920131 | 0.245405 |
| DMTF1          | 0.834686347 | -0.260693923 | 0.04701682  | 0.245833 |
| CYS1           | 0.718669341 | -0.476599954 | 0.047065668 | 0.246009 |
| ATP8B3         | 0.812402355 | -0.299733673 | 0.047083491 | 0.246024 |
| NOP10          | 1.198627532 | 0.261383417  | 0.047160617 | 0.24627  |
| NUDT15         | 1.207311636 | 0.271798118  | 0.047160671 | 0.24627  |
| TMEM110-MUSTN1 | 0.435949238 | -1.197767937 | 0.047181203 | 0.246292 |
| RP11-17G12.2   | 0.445229146 | -1.167380056 | 0.047194853 | 0.246292 |
| SLC22A15       | 0.667471384 | -0.583222109 | 0.047210678 | 0.246296 |
| PRPH           | 1.400533394 | 0.485976383  | 0.047293488 | 0.246649 |
| RPS3           | 0.827155293 | -0.273769883 | 0.047381805 | 0.246961 |
| SLC35B1        | 1.194553364 | 0.256471305  | 0.047383524 | 0.246961 |
| LRRN4CL        | 2.063819662 | 1.045316913  | 0.047398922 | 0.246963 |
| HOXC-AS3       | 2.116173392 | 1.081457842  | 0.047443668 | 0.247118 |
| AL031320.1     | 0.444528081 | -1.169653538 | 0.047467339 | 0.247133 |
| ZCRB1          | 1.27762277  | 0.35346193   | 0.047482775 | 0.247133 |
| RP11-983P16.4  | 1.23201983  | 0.301025477  | 0.047491978 | 0.247133 |
| AC005387.3     | 0.434044514 | -1.204085088 | 0.047519482 | 0.247198 |
| ZMAT3          | 0.816859802 | -0.291839605 | 0.047538826 | 0.24722  |
| RP11-473M20.5  | 0.693395337 | -0.52824996  | 0.047594624 | 0.247432 |
| CD320          | 1.192634813 | 0.254152354  | 0.047621681 | 0.247494 |
| S100A4         | 1.192856131 | 0.254420052  | 0.047672223 | 0.247608 |
| TUFT1          | 1.256909008 | 0.329880211  | 0.047673845 | 0.247608 |
| TTYH3          | 0.83748882  | -0.255858164 | 0.047745798 | 0.247903 |
| PDRG1          | 1.218539501 | 0.285153019  | 0.047786396 | 0.247932 |
| VASN           | 1.278984412 | 0.354998681  | 0.047795429 | 0.247932 |
| NOL8           | 0.767002752 | -0.382696341 | 0.047800599 | 0.247932 |
| RNF126         | 0.805971838 | -0.311198666 | 0.047817544 | 0.247932 |
| DDR2           | 1.631884084 | 0.706538583  | 0.047847658 | 0.247932 |
| HTATIP2        | 1.205894019 | 0.27010312   | 0.047850276 | 0.247932 |
| RPS15A         | 0.764642604 | -0.387142509 | 0.047867725 | 0.247932 |
| CCDC78         | 0.765881811 | -0.384806318 | 0.047872583 | 0.247932 |
| LSS            | 0.83434955  | -0.261276168 | 0.04795081  | 0.248259 |
| S100A2         | 1.189838195 | 0.250765396  | 0.047977412 | 0.248318 |
| LINC00941      | 1.507798405 | 0.592443551  | 0.048070717 | 0.248722 |
| PIP5K1C        | 0.822747249 | -0.281478797 | 0.048145233 | 0.248974 |
| SLC36A1        | 0.805850307 | -0.311416223 | 0.048149678 | 0.248974 |
| IL32           | 1.225965344 | 0.293918197  | 0.048188267 | 0.249074 |
| SLC35F2        | 1.19977361  | 0.262762204  | 0.048199468 | 0.249074 |
| STARD5         | 0.730318225 | -0.453402862 | 0.048216888 | 0.249085 |
| ZNF252P-AS1    | 1.775521335 | 0.828242696  | 0.048238343 | 0.249117 |
| AIM1           | 0.8019083   | -0.318490824 | 0.048281219 | 0.24926  |
| POLE3          | 1.195076671 | 0.257103179  | 0.048326659 | 0.249416 |
| PTPN1          | 0.837656341 | -0.255569614 | 0.048373378 | 0.249579 |
| MED15          | 0.826621568 | -0.274701088 | 0.048391641 | 0.249594 |
| MACC1          | 0.778344671 | -0.361518936 | 0.048453241 | 0.249833 |
| TMEM5          | 1.23603817  | 0.305723296  | 0.048523874 | 0.250119 |
| DNALI1         | 1.856925714 | 0.892916102  | 0.048553653 | 0.250193 |
| CCDC51         | 1.230672906 | 0.299447366  | 0.048664233 | 0.250684 |
| PPP6C          | 1.197812037 | 0.260401535  | 0.04889428  | 0.251735 |
| EFHC1          | 0.788624396 | -0.342589755 | 0.048913798 | 0.251735 |
| KIAA1191       | 1.201603644 | 0.264961093  | 0.04891423  | 0.251735 |
| ZNF700         | 0.763841209 | -0.38865534  | 0.049000309 | 0.252043 |

|                |              |               |              |           |
|----------------|--------------|---------------|--------------|-----------|
| MIR302B        | 1. 243379529 | 0. 314266732  | 0. 049004953 | 0. 252043 |
| RP11-309G3. 3  | 2. 010357432 | 1. 007452029  | 0. 049028443 | 0. 252085 |
| CTD-2314G24. 2 | 2. 042812964 | 1. 03055712   | 0. 049129142 | 0. 252523 |
| FGD4           | 0. 751257409 | -0. 41262078  | 0. 049147559 | 0. 252532 |
| ACTRT3         | 1. 931883298 | 0. 950007946  | 0. 049186593 | 0. 252532 |
| ZNF18          | 0. 729933825 | -0. 454162418 | 0. 049191676 | 0. 252532 |
| BCORL1         | 0. 829922737 | -0. 268951061 | 0. 049192624 | 0. 252532 |
| WDR59          | 0. 831287792 | -0. 266580071 | 0. 049239156 | 0. 252675 |
| FAM120B        | 0. 825942896 | -0. 275886055 | 0. 049251228 | 0. 252675 |
| PMF1           | 1. 319836153 | 0. 400358842  | 0. 049289735 | 0. 252774 |
| MRFAP1         | 1. 203464439 | 0. 267193513  | 0. 049301431 | 0. 252774 |
| AAK1           | 0. 71687718  | -0. 480202126 | 0. 049348471 | 0. 252897 |
| NDEL1          | 0. 82219315  | -0. 282450743 | 0. 049356282 | 0. 252897 |
| DOPEY1         | 0. 815310621 | -0. 294578286 | 0. 049375825 | 0. 252918 |
| RXRB           | 0. 827280432 | -0. 273551638 | 0. 049422714 | 0. 252981 |
| SKOR1          | 0. 476654857 | -1. 068983099 | 0. 049427303 | 0. 252981 |
| RP11-148021. 4 | 0. 487102364 | -1. 037703111 | 0. 049434585 | 0. 252981 |
| KAT6B          | 0. 8033528   | -0. 315894395 | 0. 049452595 | 0. 252995 |
| CITED4         | 1. 369618508 | 0. 453774102  | 0. 049518617 | 0. 25324  |
| RP11-46A10. 5  | 0. 6822251   | -0. 551680261 | 0. 049531523 | 0. 25324  |
| SIAH2-AS1      | 1. 492119284 | 0. 577362873  | 0. 049591605 | 0. 253468 |
| PSMF1          | 1. 194076864 | 0. 255895708  | 0. 049629237 | 0. 253511 |
| PAFAH1B3       | 1. 191765819 | 0. 253100775  | 0. 049631012 | 0. 253511 |
| EXOSC2         | 0. 834349881 | -0. 261275596 | 0. 0496471   | 0. 253514 |
| HRH1           | 1. 269470418 | 0. 344226777  | 0. 049773611 | 0. 254026 |
| MYC            | 0. 837167798 | -0. 256411275 | 0. 049798697 | 0. 254026 |
| THAP9          | 1. 368993809 | 0. 453115922  | 0. 049808481 | 0. 254026 |
| COA4           | 1. 202345957 | 0. 26585207   | 0. 04980924  | 0. 254026 |
| SBF2           | 0. 827184688 | -0. 273718614 | 0. 049825409 | 0. 254029 |
| MRPL34         | 1. 199020335 | 0. 261856127  | 0. 049856776 | 0. 25411  |
| F12            | 1. 24043265  | 0. 310843405  | 0. 04994485  | 0. 254479 |
| RP5-89003. 9   | 0. 64892126  | -0. 623884662 | 0. 049961913 | 0. 254487 |
| SMS            | 1. 235209371 | 0. 304755602  | 0. 049994455 | 0. 254574 |

**Table S2. Overrepresented Biological Processes of Gene Ontology in Differentially Expressed Genes between H<sub>2</sub>O<sub>2</sub>-treated and Untreated HCT116 Cells**

| <b>ID</b>  | <b>term</b>   | <b>adj_pval</b> | <b>zscore</b> |
|------------|---|-----------------|---------------|
| GO:0033554 | cellular response to stress   | 6.45E-08        | -0.123560413  |
| GO:0006974 | cellular response to DNA damage stimulus  | 1.22E-07        | -0.573462344  |
| GO:0042981 | regulation of apoptotic process   | 6.44E-07        | 2.005223305   |
| GO:0051056 | regulation of small GTPase mediated signal transduction                               | 1.55E-06        | -6.880975664  |
| GO:0010942 | positive regulation of cell death   | 2.07E-06        | 0.103695169   |
| GO:0016570 | histone modification  | 2.90E-06        | -4.882400827  |
| GO:0043065 | positive regulation of apoptotic process  | 7.15E-06        | 0             |
| GO:0035194 | posttranscriptional gene silencing by RNA   | 9.59E-06        | -3.5          |
| GO:0006915 | apoptotic process   | 1.85E-05        | 1.737853339   |
| GO:0007173 | epidermal growth factor receptor signaling pathway                                    | 2.54E-05        | -2.672612419  |
| GO:0045936 | negative regulation of phosphate metabolic process                                    | 6.00E-05        | 0.232495277   |
| GO:0034968 | histone lysine methylation  | 0.000113755     | -4.472135955  |
| GO:0000079 | regulation of cyclin-dependent protein serine/threonine kinase activity               | 0.000125347     | 2.501851166   |
| GO:0007169 | transmembrane receptor protein tyrosine kinase signaling pathway                      | 0.000175832     | -4.455890689  |
| GO:0051101 | regulation of DNA binding   | 0.000247651     | -0.426401433  |
| GO:0006281 | DNA repair  | 0.000257808     | -1.179323788  |
| GO:0006357 | regulation of transcription from RNA polymerase II promoter                           | 0.000288021     | -2.898704819  |
| GO:0006367 | transcription initiation from RNA polymerase II promoter                              | 0.000356403     | -0.437594974  |
| GO:0035966 | response to topologically incorrect protein   | 0.000526404     | 3             |
| GO:1902679 | negative regulation of RNA biosynthetic process                                       | 0.000657629     | -2.638911787  |
| GO:0070482 | response to oxygen levels   | 0.000878556     | 1.213559752   |
| GO:0006479 | protein methylation   | 0.001123171     | -3.530090432  |
| GO:0001844 | protein insertion into mitochondrial membrane involved in apoptotic signaling pathway | 0.00116083      | 3.31662479    |
| GO:0000086 | G2/M transition of mitotic cell cycle   | 0.001497844     | -2.081665999  |
| GO:0044839 | cell cycle G2/M phase transition  | 0.001497844     | -2.081665999  |
| GO:0042542 | response to hydrogen peroxide   | 0.001560842     | 2.6           |
| GO:0006979 | response to oxidative stress  | 0.001749643     | 1.952833665   |
| GO:0097193 | intrinsic apoptotic signaling pathway   | 0.001932627     | 1.510966203   |

|            |  |             |              |
|------------|--|-------------|--------------|
| GO:0016573 | histone acetylation  | 0.002252602 | -2.04264872  |
| GO:0016571 | histone methylation  | 0.002569681 | -4.582575695 |
| GO:0018394 | peptidyl-lysine acetylation  | 0.003227738 | -2.19089023  |
| GO:0071495 | cellular response to endogenous stimulus                             | 0.003938314 | -1.946657054 |
| GO:0051568 | histone H3-K4 methylation  | 0.005231393 | -3.31662479  |
| GO:0006310 | DNA recombination  | 0.006371744 | 0.288675135  |
| GO:0042026 | protein refolding  | 0.00637813  | 2.449489743  |
| GO:0007050 | cell cycle arrest  | 0.006794316 | -0.437594974 |
| GO:0030330 | DNA damage response, signal transduction by p53 class mediator       | 0.007199579 | 1.961161351  |
| GO:0044783 | G1 DNA damage checkpoint   | 0.009424675 | 1.605910137  |
| GO:0034770 | histone H4-K20 methylation   | 0.01074685  | -2           |
| GO:0018076 | N-terminal peptidyl-lysine acetylation                               | 0.010901203 | -1.732050808 |
| GO:2000637 | positive regulation of gene silencing by miRNA                       | 0.010901203 | -1.732050808 |
| GO:2000045 | regulation of G1/S transition of mitotic cell cycle                  | 0.015775954 | 0.755928946  |
| GO:0035601 | protein deacylation  | 0.016377808 | -2.323790008 |
| GO:0000082 | G1/S transition of mitotic cell cycle                                | 0.017118688 | 1.474419562  |
| GO:1902582 | single-organism intracellular transport                              | 0.021191659 | -3.209029813 |
| GO:0008630 | intrinsic apoptotic signaling pathway in response to DNA damage      | 0.021374939 | 0.625543242  |
| GO:0016575 | histone deacetylation  | 0.02381845  | -2.886751346 |
| GO:0016246 | RNA interference   | 0.024312526 | -0.577350269 |
| GO:2000134 | negative regulation of G1/S transition of mitotic cell cycle         | 0.029941269 | 1.091089451  |
| GO:0045944 | positive regulation of transcription from RNA polymerase II promoter | 0.035417741 | -2.316264097 |
| GO:0000724 | double-strand break repair via homologous recombination              | 0.038072883 | -1.290994449 |
| GO:0051567 | histone H3-K9 methylation  | 0.041250594 | -2.236067977 |
| GO:0000725 | recombinational repair   | 0.043090822 | -1.290994449 |

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